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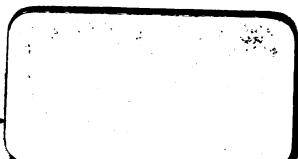
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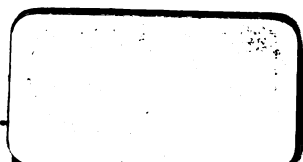
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AND  
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THE LATE MEETING OF THE BRITISH ASSOCIATION AT  
EXETER.—CANON GIRDLESTON ON SCHOOLS IN AGRICULTURAL DISTRICTS.

**C**ANON GIRDLESTON, in his paper on "The Maintenance of Schools in Rural Districts," observed that, twelve months' longer experience and study of public documents had confirmed him more strongly than ever in the truth and accuracy of all which, at Norwich last year, or elsewhere, either before or since, he had spoken or written, and in the wisdom of what he had done in the matter of the agricultural labourer. He had advocated and promoted migration as a mere palliative for the time being, and he had done so with great success. But it was to education that he looked as the only permanent source of improvement. He cited several passages from the reports of the Committee of Council on Education, and that of the Commissioners on the employment of women and children in agriculture, as well as from the speeches of members of the present Government and others in both Houses of Parliament, to the effect that there was a general expectation that next session some measure of direct or indirect compulsion, as regards the education of the children of agricultural labourers, would be proposed, and meet with general approval.

He urged, and cited many passages from public documents to prove that, much as such a measure, in order to make schools which are efficient in construction and management, efficient also in results, is needed, it would be both unjust to the labourer and useless as regards results to enact it until a really efficient school was established, and permanently maintained within easy reach of every labourer's cottage. He then proceeded to show that in more than half the parishes in England and Wales, and in much more than half the rural parishes, this was far from the case. It was only concerning the aided schools, or those fulfilling all the conditions of State assistance that there was any official and substantial proof of efficiency. Out of 14,877 parishes in England and Wales, the Committee of Council report that there are only 7,406 which have aided schools. That of the remainder 2,779 have schools built with State aid, but not fulfilling the conditions of annual State aid, and described after

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I

inspection as generally more or less inefficient, while with regard to 4,692 parishes, nothing whatever is officially known, though there is good reason for supposing that in some of them there are good schools, in many more, schools of various degrees of inefficiency, and, in not a few, no schools at all.

Making copious extracts from the Duke of Newcastle's Commission on Education, 1861, the reports of the Com. of Council just presented to Parliament, of the National Society for the last year, and of the commission on the employment of women and children in agriculture, from the special reports of eight of Her Majesty's Inspectors of Schools, from a large number of private letters from various quarters, including one from the manager of Botton's Charity, which makes annual grants of from £5 to £20 to no less than 1,200 Church of England schools, Canon Girdleston proceeded to explain the cause of this deficiency of guaranteed really good schools. All the above authorities, as well as most of the leading members of both Houses of Parliament, whose speeches on various occasions are also quoted, are, he said, agreed that the difficulty consists, not in the one great but isolated effort involved in, the first building of a school, but in the continuous effort involved in the annual maintenance of it. They are also agreed that this is not owing to any poverty in the parishes themselves, every parish, except the very few which are too small to need more than a moiety of a school, having within itself sufficient property, as is proved by the rate-book, to maintain an efficient school by a tax so small as to be almost unappreciable.

There was universal and very strong testimony to the fact that the parochial clergy, over and above, generally taking the initiative in the establishment of schools, and voluntarily undertaking a large share in the superintendence and management, as well as the very disagreeable task of collecting subscriptions from parties, many of whom altogether refused to do their duty, and not a few treated the clergy with rudeness as though they were asking for themselves, after subscribing in the first instance more than any one in the parish, had at the end of each year no alternative but either to close the school, or balance the accounts by payments often amounting to £30 or £40; and in the case of 3,000 schools reported by the National Society, averaging a sum of £18 each. Equally strong is the testimony to the fact, that though some landowners are very generous, especially if the school is near their own residence, yet as a class, especially if non-resident, they almost entirely ignore the claim which the cause of education has upon property, and that the occupiers of land contribute hardly anything at all. Canon Girdleston argues from the above premises, which are none of them matters of opinion or assumptions of his own, but facts stated and circumstantially proved by extracts from the most reliable official documents, that there can never be any guarantee for there being an efficient school within easy access of every labourer, until the land is made to do its duty. With the view of interfering as little as possible with the existing state of things, and yet remedying that one chief blot in the system, he recommended that the children should continue to pay a penny a week as now, thus avoiding the risk and evil of education becoming a pauperizing dole; that the

State grant should be distributed as now—that in every parish or district in which there are not at this present time existing school buildings in all respects satisfying the requirements of the State, such buildings should be immediately erected with money borrowed wholly on the parochial rates, and to be repaid, like loans from Queen Anne's Bounty for parsonages, by equal instalments in 30 years, or partly in this way and partly by a tax on the land. That Denison's Act should be made compulsory, and so throw upon occupiers of land the charge of educating in the parochial school the children of all receiving out-door relief, a process which would at one and the same time bring hundreds of idle children under education, and increase the funds of the school. And lastly that all that portion of school expenses which is now defrayed by voluntary contributions should be satisfied by a tax or rate upon the land. Last year, as appears from the report of the Committee of Council, somewhat less than one half of the parishes in England and Wales had schools aided by the State. The voluntary contributions towards the maintenance of these amounted to £492,941.

When there is an aided school in every parish or district, the number of schools will be doubled, though the school funds will be so replenished by the operation of Denison's Act made compulsory and other compulsory enactments, as not to need voluntary contributions in the same proportion as now. Say, however, that in a round sum £1,000,000 would be required, which is more than double the sum now contributed for half the number of schools. England and Wales are computed to contain 37,321,323 statute acres, producing an annual rental of £107,352,971. On that measurement and rental 6½d. per acre, or 2½d. in the £1, would produce the sum above named, though in all probability 1d. in the £1 would raise as much as would be wanted. The landowners would thus be made to contribute a fair share, but nothing more. The occupiers, as above shown, by the operation of Denison's Act, would be made to contribute their share, advisedly small, because they are already heavily burdened. Professional men and others, being neither landowners nor occupiers, would, as now, contribute their share through the general taxes out of which comes the State aid, a great increase in the amount of which would now be demanded, in consequence of the number of schools being doubled, and more inspectors wanted. All begging for schools would cease, much to the relief of the clergy, and their maintenance would depend on a certain instead of a very uncertain and fluctuating source.

Meanwhile there would, Mr. Girdleston argued, be plenty of channels still remaining open for the flow of private beneficence and voluntary contribution in the matter of education. Such were the support of Sunday Schools; the supply of extra books, maps, globes, and loan libraries to day-schools; the extra payment and unexpected, but none the less welcome presents to deserving masters, mistresses, and pupil teachers, and help towards the establishment of a superannuation fund, school treats and excursions, and a thousand other things which would tend to impart sunshine to school life; and above all, the payment of school fees, and the providing decent school clothing for the children in large poor families.



Canon Girdleston proved from the report of the Committee of Council for 1869, that every statement made concerning other parts of the country applied still more stringently to the county of Devon. There are aided schools in little more than one third of the parishes in that county, and there was much reason to fear that in many of the remaining two thirds the schools were chiefly inefficient, and that in some there were none at all—a state of things which contrasted unfavourably with the condition of the country at large, bad even as that was. It fully justified the words quoted by Canon Girdleston from the last report of Mr. Howard, H.M. inspector of schools in North Devon, which in truth did little more than express in somewhat stronger language the almost unanimous opinion of H.M. inspectors in other districts, and of all the other officials above cited. “At present,” says Mr. Howard, “the chief burden of the support of schools is borne by the clergy; the farmers as a class give nothing; the contributions of country gentlemen are shamefully small.”

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#### REPORT OF THE COMMITTEE OF COUNCIL ON EDUCATION.

**T**HE report of the Committee of Council on Education has been issued. It states that the year 1868 was marked by sustained progress. The operations of the committee were confined to the promotion of education among the labouring classes. In England and Wales the total number of scholars in schools receiving annual grants was 1,284,778 in 1868, as compared with 1,170,400 in 1867; and in Scotland 200,273, as against 181,972 in 1867. There are 2,130 schools in Scotland, and 13,442 in England and Wales. In schools simply inspected there were in 1868, 36,081 scholars in England and Wales, and 6,533 in Scotland.

The whole number of scholars, over ten years of age, on the registers of these same schools was under 467,280. The number of such scholars presented for examination under the standards was only 288,027, of whom 191,299 either failed in one or other standard, or passed only in one of the three lower standards, the highest of the three being—To read a short paragraph from an elementary reading book used in the school; to write a sentence from the same paragraph, slowly read once, and then dictated in single words; to work a sum in any simple rule as far as short division (inclusive). In other words, taking 467,280 scholars on the school registers, of the age beyond which day school attendance is little prolonged, nothing certain can be stated of the individual proficiency of 38·3 per cent. of them. Confining ourselves to the 288,027 who were tried, their examination shows 35·2 per cent. of failure, and 31·2 per cent. of insufficient attainments, *i.e.*, not exceeding Standard 3; only 33·6 pass without failure above Standard 3. Again, the proportion of scholars over ten years of age (467,280) to those of all ages over six years (1,255,953) on the school registers is 37·2 per cent., but the proportion of scholars over ten years of age (96,728) who pass without failure in any one of the three higher standards to the same number (1,255,953) is only 7·7 per cent.; that is to say, of four-fifths of

the scholars about to leave school, either no account, or an unsatisfactory one, is given by an examination of the most strictly elementary kind.

Out of 1,685,168 children on the registers (in the year ending 31st August, 1868) of the annually aided schools in Great Britain, 1,255,953 are over six years of age, and 747,898, or 59·55 per cent. of them were individually examined. The per-centage which the number examined bore to the number on the registers was, in England and Wales, 60·34 per cent. ; in Scotland, where grants continue to be paid under the code of 1860, and do not depend for their amount on the result of individual examination, only 55·25 per cent. Those who passed without failure in one or other standard were 512,973, or 68·59 per cent. of those examined. But of these there were in—

Standard I., 13,625 over 10 years of age.

“ II., 31,115 ” ” ”

“ III., 45,227 ” ” ”

————— 89,967.

Standard IV., 42,994 over 10 years of age.

“ V., 35,106 ” ” ”

“ VI., 18,628 ” ” ”

————— 96,728.

The number of those who failed in one or other standard was 234,925. But of these were in—

Standard I., 3,523 being over 10 years of age.

“ II., 11,430 ” ” ”

“ III., 20,542 ” ” ”

————— 35,495

Standard IV., 32,553 being over 10 years of age.

“ V., 22,222 ” ” ”

“ VI., 11,062 ” ” ”

————— 65,857

As far as the mere power of passing goes, irrespectively of higher quality, of age, of standard, or of the proportion of the scholars examined to the rest, a comparison of the last three years above that, out of every 100 examined, there passed in—

READING.

	1866.	1867.	1868.
England and Wales .....	89·1	89·77	90·03
Scotland.....	94·45	96·39	96·96
Great Britain .....	89·9	90·71	91·03

WRITING.

	1866.	1867.	1868.
England and Wales .....	86·33	87·31	88·16
Scotland.....	86·31	89·29	90·48
Great Britain .....	86·33	87·59	88·49

ARITHMETIC.

	1866.	1867.	1868.
England and Wales .....	74·72	75·27	76·49
Scotland.....	78·78	82·36	84·8
Great Britain.....	75·31	76·28	77·7

These figures prove that the scholars presented for examination generally satisfy the test to which the managers choose to subject them, and the increase in the percentage of passes makes a certain improvement. The fact, however, that out of 288,027 scholars examined being over ten years of age, 59,693, or 20·7 per cent. were presented in Standards I. and II., necessitates one of the following alternative inferences, viz. : that Article 46 of the code, forbidding the presentation of any scholar a second time for examination under the same or a lower standard, is evaded by change from school to school; or that the managers and teachers crowd their scholars who are examined for the first time into standards below their real proficiency; or, lastly, that 20·7 per cent. of the scholars in their eleventh year and upwards, who were offered for examination, had not learnt enough to justify them in attempting more than to read one of the narratives next in order after monosyllables in an elementary reading book used in the school, write in manuscript character a line of print, work a sum in simple addition, or subtraction, and repeat the multiplication table. —

Such are some of the facts which the searching test of individual examination, individually recorded, brings to light in elementary schools. But the experience of most educated people will, the committee remark, tell them that if an analogous test had been as rigorously and impartially applied to their own schools—that is to say, to schools in which scholars had neither illiterate homes, nor were irregular in attendance, nor had uncertain and inadequate means to struggle against—the result, even there, would have proved, and perhaps with hardly less completeness, how arduous a task it is to secure that the great majority of any scholars shall be able to reproduce in a tolerable degree the fruits of the instruction which they are supposed to have received.

## EDUCATION IN GREECE.

BY DIOS GENNA.



**I**N Greece, since we have been allowed to take care of ourselves, education and mental culture have become what they were with our forefathers—an almost religious duty. The rudest and most illiterate of our peasantry has a kind of innate admiration for a “lettered” man, and he considers it a disgrace if his children remain uneducated. A poor scholar has in Greece a universally recognised claim for help on his more affluent fellow-students; he is sure to find even books gratis; now it is a comrade from a higher class that leaves to him the books he no longer requires, now an outside friend, now his own master makes a present of them to him. The booksellers and publishers of school books nothing can be refused to him, his vocation is sacred. Very often a poor young man enters a rich family as servant with scarcely any wages, but on the condition that he be allowed to attend at school for a few hours every day. He thus manages by sheer perseverance to reach the first or second class of the Gymnasium. He then finds occupation as tutor to some beginner; he hires a miserable little garret in common

with two or three other strugglers in the same way. He lives on bread and olives, but in a few years he obtains his degrees. There are Professors of the Gymnasia who have fought their way to the professorship in this way, and we find these to be the best of their class. Every rich Greek considers it his last duty upon earth to bequeath a sum of money for the education of poor but talented young men. Thus an immense capital is now in the hands of the trustees, the interest of which is devoted to scholarships for the most deserving of the poor students; and it is by means of these funds that yearly thirty or forty young men leave Athens to complete their studies in Germany and France. In every great university town on the continent—in Munich, Leipsig, Göttingen, Berlin, Vienna, Heidelberg, Paris, Montpellier, Strasbourg, &c.—the Greeks figure among the cleverest and most promising of its students. From Turkey, and from the whole of the East, not only Greeks, but Bulgarians and Wallachians, flock to Athens—that land of promise for the Eastern thirsting after knowledge—to obtain there gratis that which the Government of the Sultan does not afford to them even on payment. We thus educate gratis those subjects of the Porte whom the Turkish Government taxes mercilessly without giving anything in return. Evening classes are also held for the benefit of working men: in Athens, under the direction of the Society of “The People’s Friends;” they are nightly thronged by eager audiences, and Professors of the University and other eminent men give lectures gratuitously. Athens possesses a complete and efficient observatory, the total expense of the construction of which was defrayed by Baron Linas, a Greek, and one of the richest bankers of Vienna. The park of a Turkish Pasha, in the vicinity of Athens, has been converted into a botanical garden, and a natural history museum is attached to the University. The first foundation of a public library in Greece was laid in 1829, by that great and good man, than whom no one contributed more towards the present flourishing state of public instruction in Greece. It has since gradually but steadily increased in importance, and now this, the only library worth the name in the East, numbers 100,000 volumes. Such is the work achieved in thirty-five years, and Greece can now boast of a more complete and more liberal system of education, equally accessible to the rich and the poor, than many a more favoured and more prosperous country possesses. The late Sir Thomas Wyse, the most consistent authority on such questions, long ago bore witness to this.

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WE (*Birmingham Daily Post*) are authorized to state that the governors of King Edward’s School have given notice to the Commissioners of the Endowed Schools Act, 1869, of their intention to prepare and submit to the Commissioners, within twelve months from the 1<sup>st</sup> of August, the draft of a scheme relating to the above endowment.

## A PLEA FOR THE MORE SOLID EDUCATION OF WOMEN IN THE UPPER CLASSES.

BY PROFESSOR W. F. NEWMAN.

**E**NERGY in mental pursuits is with most natures dependent on the further objects proposed. A few, only a few, are naturally bent on thorough knowledge, with perhaps a genius for one study, which they will follow for its own sake: but the majority ask, what after-ends it will serve. It is in vain that a College gives prizes for Latin and Greek, if it has not a career to which they lead. It is of little avail to open free schools to the poor, if they see no benefit to be gained by their children. To have a *motive* for study which acts uniformly on minds not of themselves on fire for knowledge, is the first desideratum for any wide-spread mental activity.

If to shine in the drawing-room be the object held up before a young lady's mind, we know what accomplishments and what graces it will chiefly foster. We admire them; we praise them; but it is felt that to stop there is superficial culture, having in fact little moral basis. Unless the philanthropy native to the sex has given sufficient impulse to solid thought, their conversation soon exhausts its topics and becomes insipid. If it is to be *only* volatile, if it *always* dreads depth and earnestness, the person who lives much for it can hardly be deep and earnest. Conversation must often be, and ought to be, on the surface alone of things; but even that is most charming, when a richly endowed intellect underlies it and the heart is full of noble desires.

Women who are aware that the power gained by knowledge may bring substantial benefit to themselves and others, will not, collectively as a sex, prefer the abstract and pretentious to the solid and fruitful. If then in the richest classes they continue to care chiefly for showy accomplishments, they will have to feel the superior influence of other women. The great majority will be unable to limit their aspirations to the drawing-room, and to these study will present itself in a new point of view, when it has a practical bearing. They need *first*, not high science, nor knowledge of things remote in time and interest, but a thorough practical understanding of that world with which we are in immediate contact.

The laws of Health, the properties of Food, the laws of Heat, the laws of the Market, the doctrine of Vulgar Fractions and of Compound Interest, may be called homely science, but are as important to women, married or unmarried, as to men. To understand daily facts, modern languages, the state of modern nations, the origin and history of landed property, and the whole of our complex modern life; to be sound in all elementary knowledge and in the homely branches of science just mentioned;—are really the rudiments both of politics and of practical good sense. With SOCIAL UTILITY held up as the end of ordinary and general education, the studies of women, even in classes which now live for elegance, will gravitate towards solidity; while the genius of the sex itself assures us that refinement and grace will never be too little valued by them.

## ON REPETITION, AND CONCENTRATION OF THE MIND IN EDUCATION.



ROFESSOR BAIN in his work on *The Senses and the Intellect*, has the following remarks, which we extract for their important bearing on the philosophy of Education.

"A certain amount of Continuance, or Repetition of the matter to be learned, is requisite : and the greater the continuance, or the more frequent the repetition, the greater the progress of the learner. Deficiency in the other conditions has to be made up by a protracted iteration.

"The Concentration of the mind is an important condition. This means physically that the forces of the nervous system are strongly engaged upon the particular act, which is possible only by keeping the attention from wandering to other things. It is well known that distraction of mind is a bar to acquirement.

"There are various modes of attaining the desired concentration. It is a voluntary act, prompted by present and by future pleasures and pains.

"The greatest of all motives to concentration is a present enjoyment of the work in hand. Any exercise possessing a special charm detains us by immediate attraction ; everything else is neglected so long as the fascination lasts. This is the inherent power of the will in its immediate and most efficient manifestation—a present pleasure furthering a present action. It explains the great influence of what is called the Taste for a special pursuit. The taste or fascination for music, for science, for business,—keeps the mind of the learner exclusively bent upon the subject ; and the pace of acquisition is proportionally rapid.

"Next to present enjoyment, is associated our future enjoyment ; as when we devote ourselves to something uninteresting or painful in itself, but calculated to bring future gratification. This is, generally speaking, a less urgent stimulation, as being the influence of pleasure existing only in idea. There may, however, be all degrees of intensity of the motive according to the strength of the ideal representation of the pleasure to come. It is on this stimulation, that we go through the dry studies necessary to a lucrative profession or a favourite object of pursuit. The young are insufficiently actuated by prospective pleasure, owing to their inferior ideal hold of it ; and are therefore not powerfully moved in this way.


"A third form of concentration is when present pain is made use of to deter and withdraw the mind from causes of distraction, or matters having an intrinsically superior charm. This is the final resort in securing the attention of the volatile learner. It is an inferior motive, on the score of economy, but cannot be dispensed with in early training. By an artificial appliance, the subject is made *comparatively* the most attractive. So with the use of future pains ; the same allowance being made for the difference in their character, as for pleasures existing only in prospect."

We doubt whether the above few sentences do not furnish us with more of the true philosophy of Education, than is to be found in many treatises of fair repute professedly devoted to the subject.



## NOTES ON SHAKSPEARE'S PLAY, "AS YOU LIKE IT."

## INTRODUCTION.

ONSIDERING the number of editions of Shakspeare's plays which have of late been given to the world—with notes and without, cheap and expensive, for the poor man as well as for the rich—in fact, in every form required by the age, it may seem superfluous for us to introduce to the notice of our readers this subject, which has been so well and ably written upon.

Of course, we shall not lay claim to much new matter in our notes; nevertheless, since no gleaner ever gathered all the scattered ears in a rich corn field—nor did any admirer of nature, however ardent a lover of her he might be, ever see all the beauty in a single landscape—nor did any gold-digger, however perseveringly he might seek the vein of the precious metal, and with what care soever he might separate the glittering specks from the grosser matter, ever collect every particle of gold—so we, who are gleaning in the rich harvest field, hope to gather some ears which previous gleaners have walked over or trampled under foot, as well as to see some beauty in this grand panorama of nature which never yet met the gaze of the beholder; and also to dig up from this mine of unexhausted wealth, some precious metal which has hitherto escaped the keen eye of the most diligent searcher; and we trust that the result of our labours may be of some use to our readers, and that our success in these investigations will be ample apology for undertaking a task which has already engaged so many and able workers.

We have endeavoured to make our notes as plain, clear, concise, and exhaustive as possible—in fact, such as we should orally give to a class of youths (from twelve to sixteen years of age) reading this play, for whose use they are in a great measure designed. This play is the one to be read for the Christmas local examinations.

We shall continue our notes: those on the remaining "Acts" will be published in the next number of this periodical.

## LITERARY AND HISTORICAL NOTICE.

Malone ascertains the date of this play by the following singular coincidence of an allusion made by Rosalind with a circumstance recorded by Stowe. "I will weep for nothing" (says Rosalind) "like *Diana in the Fountain*." "In 1598, at the east side of the Cross in Cheapside, was set up" (says Stowe in his "Survey of London") "a curious wrought tabernacle of grey marble, and, in the same, an alabaster image of *Diana*, and water, conveyed from the Thames, trilled from her naked breast." Probably, therefore, this play was composed about the year 1600. (See. iv., Act. 1.)

A trifling novel on pastoral romance, by Dr. Thomas Lodge, called *Euphues's Golden Legacy*, is the foundation of "As you like it." In addition to the fable, which is pretty exactly followed, the outlines of certain principal personages may be traced in the novel; but the characters of Jaques, Touchstone, and Audrey originated entirely with the poet.

Few plays contain so much instructive sentiment, poignant satire, luxuriant fancy, and amusing incident as this; it is altogether wild and pleasing.

The philosophic reader will be no less diverted by the sententious shrewdness of Touchstone, than instructed by the elegant and amiable lessons of the moralizing Jaques. Shakspeare is said to have played the part of *Adam* in "As you like it."

## ACT I.—SCENE I.

Enter ORLANDO and ADAM.

1. ORL. '*Bequeathed me.*' Here the prep. *to* is understood—bequeathed *to* me; hence the objective *me* is governed by *to*. '*Was bequeathed,*' being passive, does not govern a case.
2. " '*But a poor.*' But a *paltry* thousand crowns.
3. " '*On his blessing.*' Either whilst blessing him; or else, that he should be blessed on condition that he gave his younger brother a good education.
4. " '*Breed me well.*' To bring up well, to give a good education, one worthy of his station in life.
5. " '*Goldenly of his profit.*' Highly of his improvement.
6. " '*Rustically.*' Adv. As rustics or field labourers are kept at home to work; not sent to school, as gentlemen's sons mostly are; derived from Latin *rusticus*, a rustic.
7. " '*Stays me.*' In the sense of *detains, holds back*—not *waits*, in which latter sense this verb is mostly used. Gen. viii. 10. And Noah *stayed* (waited) yet other seven days.
8. " '*Stalling of an ox.*' Feeding, fattening; an ox fed in the *stall*, not on grass, but on richer food. (Prov. xv. 17.)
9. " '*Fair.*' Sleek, fat, in good condition.
10. " '*Their manage.*' Trained to saddle and harness.
11. " '*To that end riders.*' End (have) riders, *have* being understood; or else, And to that end riders (are) dearly hired (for them).
12. " '*For the which.*' Here *the* appears to be used emphatically, perhaps instead of the word *thing*, thus—For which *thing*. Shakspeare often makes use of this expression, which has now, however, become obsolete.
13. " '*Bound to him.*' Indebted, obligated, beholden. *Bound* is past partic. of verb *to bind*.
14. " '*Besides this nothing.*' *Nothing* is, here, used in contrast to *something* in the line following. And here we may remark that it is a great and chief characteristic feature of Shakspeare's style, to make one word the father or begetter of another. No one can read the production of this master-mind, without being struck with the close dependence which one word or sentence has upon another. If he makes use of a word that is suggestive, he almost invariably follows out the suggestion to wherever it may lead. His sentences are, as it were, strung one upon another in the most natural order

and manner. Nothing appears far-fetched or out of place ; and this, we take it, constitutes the great charm which his writings possess over those of other men, and it is the spell by which he binds his readers to his pages.

15. ORL. '*His countenance.*' Treatment of me ; behaviour towards me.
16. " '*Hinds.*' Ang.-Sax. *hine*, meaning *servants, field-labourers*.
17. " '*Bars me the place.*' *Debars* from me the place—*i.e.*, shuts me out from his companionship and confidence.
18. " '*Mines my gentility.*' Undermines, *i.e.*, lessens any advantage I may have in being of gentle blood and highly born, by giving me no education.
19. " '*To mutiny.*' To rebel ; to rise up.
20. " '*Though yet.*' Though as yet.

Enter OLIVER.

21. " '*Shake me up.*' Rate me, rail on me. An equivalent expression in these days, though vulgar, is, "Blow me up."
22. OLIV. '*What make you here ?*' What do you here ? is the modern English ; *do* would have had the same meaning as *make*, but it would not have answered Shakspeare's purpose so well, as we see from what follows.
23. " '*What mar you then ?*' '*Make and mar,*' a common expression even now. Shakspeare appears to have had this in mind.
24. ORL. '*Marry.*' Adv. Indeed. *Marry* is sometimes used now. We often hear the expression in the north of England, '*Not I, marry.*'
25. OLIV. '*Marry, sir.*' In imitation of his brother, to whom he talks in *mockery*.
26. " '*Be naught awhile.*' A petty malediction, and thus Oliver says no more than—be better employed and be hanged to you. (Knight.)
27. ORL. '*Shall I keep your hogs.*' Allusion to the parable of the prodigal son. See Luke xv. 16.
28. " '*Better than him I am before.*' *Him*, it would appear, is gov'd. by prep. *before*. It would have been better English to have said, Better than he before whom I am knows me. Some readings are, '*Better than he I am before knows me.*'
29. " '*The courtesy of nations.*' Custom of nations.
30. " '*My better.*' Holds your right to the estates of my father, in preference to mine.
31. " '*Same tradition.*' Fashion, manner, or custom of countries. (L. traditio).
32. " '*Coming before me.*' Being the first-born or eldest son.
33. OLIV. '*What, boy !*' In contempt, jeeringly.
34. ORL. '*Elder brother.*' Elder of the two. Orlando says this in contrast to the '*What, boy !*' of his brother.
35. " '*Too young in this.*' As much older as Oliver is, Orlando considers him too young to talk to him in this mocking style, and to treat him as though he were but a child, and therefore

determines to stop it by force, if he will not listen to reason, to show him *practically* that he is not so much of a *boy* as his brother supposes, in strength and courage at least; hence he seizes him by the throat.

36. OLIV. 'Villain.' Play upon the word *villain*. It would appear that this word had acquired, in Shakspeare's time, the meaning in which it is now used. The original meaning of the word was *serf* or *slave*, and was exclusively applied to the lowest class of people, those who held land by a *base* or *servile tenure*, during the Norman and Plantagenet dynasties. It is difficult to say at what exact period it acquired the meaning we now give to it, *viz.*, *scamp*, *scoundrel*.
37. ORL. 'I am no villain.' Here Orlando uses the word according to its original meaning, and thereby takes occasion to vent his anger more freely upon his brother than he, perhaps, otherwise would have done, had his brother not made use of the word in reference to him (Orlando).
38. " 'Wert thou not.' *Wert*, subjunctive past, 2nd, sing., with conjunc. *if* understood; *If* thou *wert* not. This form of the person is seldom used now, as we scarcely ever use the sing. *thou*, but *you* for both numbers.
39. " 'Railed on thyself.' By applying *villain* to Orlando, Oliver includes himself amongst the class of people to which this word was originally applied, since he is brother to Orlando.
40. ADM. 'Be at accord.' Agree.
41. OLIV. 'Let me go, I say.' It is necessary to have a wrestling match, or some other trial of strength, after this, in which Orlando should be victor, since he appears to *hold* his brother so easily in his clutches.
42. ORL. 'Gentlemanlike qualities.' *Accomplishments*, or *exercises*, as below.
43. " 'The spirit of my father.' Alluding to the spirit coming upon Samson after he had been bound, when "he brake the cords from off his hands as though they had been tow." (Judges, xvi.) It is owing to this spirit coming upon Orlando that his brother only appears like a child in his hands.
44. " 'Poor allottery.' Portion of money—1000 crowns aforementioned.
45. " 'Buy my fortunes.' Or, as we should say, Seek my fortunes.
46. OLIV. 'Some part of your will.' Play upon the word *will*. Orlando wants that part of the *will* fulfilling which bequeathes him 1000 crowns. Oliver, perhaps, means to let him go about his business.
47. ADM. 'I have lost my teeth.' How readily the old man catches at the comparison.
48. " 'Have spoke.' *Spoken* would be the correct form of the verb—*speak*, *spoke*, *spoken*. Perhaps Shakspeare makes the error in grammar that it may be the more in keeping with the character that speaks it.

Enter DENNIS.

49. DEN. '*Calls your worship?*' The *verb* comes before *nom.* The accent here is laid upon the verb *calls*, which makes the asking of the question more emphatic. *Calls* is in pres. tense, used instead of *does call*, as—*Does your worship call?* or, *Is your worship calling?*
50. OLIV. '*Twill be a good way.*' An idea has struck him how to get rid of his brother.

Enter CHARLES.

51. " '*What's the new news at the new court?*' *Fresh news* is *new news*. Anything we hear about a person or place or thing is *news* to us; if we have heard this before, we call it *stale news*; if not, we say it is *fresh news*. Oliver knew of what Charles tells him, therefore that was *stale news*, or, as Charles expresses it, *old news*. *News* is a noun used only in the pl. number; it takes a verb in the sing., as we see here, '*What's the news?*' or, '*What is the news?*' and we say news *is brought*. The reason is, *news* conveys *unity*, not *plurality* of idea. Shakspeare is very fond of *playing* with words in some of his plays; in fact he scarcely ever misses when the occasion presents itself, and this is an instance amongst a great many others.
52. CHAS. '*Her exile.*' Her (into) exile; or, Her *exiled*.
53. " '*Ta stay behind her.*' To have been compelled to stay behind her, he means to say.
54. " '*Beloved of.*' J. Montgomery uses the prep. *by* after the same participle, '*Beloved by heaven*;' Macaulay has, '*Beloved of heaven.*' Both prepositions are good grammar; but *by* is perhaps more modern, and more common.
55. " '*Robin Hood of England.*' Since the plot of this play is laid, and all the scenes are represented as being transacted, in France, Shakspeare makes it appear that the fame of Robin Hood had spread to that country. It is probable that Shakspeare was indebted for some of his materials for this play, to the life, either written or traditional, of that famous outlaw, and his merry men of Sherwood Forest.
56. " '*Fleet the time carelessly.*' Pass the time without care for the present, forethought for the future, or in regret of the past.
57. " '*The golden world.*' The world before the flood. The age of gold. The Arcadians are represented as living in a golden world. Their wealth, like that of the patriarchs, consisted in flocks and herds, and they hunted and tended their flocks, living lives of the greatest simplicity. Virgil's pastorals represent scenes of innocence and bliss, and Sir Philip Sydney has drawn such scenes in his Arcadia. They have both pourtrayed ideal golden worlds. Any blissful state of life, void of care, is called an Arcadian or golden state. According to Cowper, such an age as that of gold is only fabled; he says (Task, Book IV.), '*Those days were never.*' See the poem.

58. „ ‘*Marry do I.*’ *Do* before *nom.* *I* makes it more emphatic. Here is another instance of the carefulness of Shakspeare, in making his language tell upon the audiences.
59. „ ‘*Intendment.*’ French, *entendement*—intention, purpose, design, (Nearly obsolete.)
60. „ ‘*Brook such disgrace.*’ Ang.-Sax. *brucan*, means to endure; hence we say, I will not *brook* such treatment.
61. „ ‘*In that.*’ A conjunctive phrase, meaning since.
62. „ ‘*His own search.*’ Seeking out, choosing.
63. OLIV. ‘*By underhand means.*’ Secret or indirect, not openly.
64. „ ‘*It is the stubbornest.*’ Mark the pron. *it*, as though he were speaking of some inferior animal.
65. „ ‘*I had as leif.*’ Soon; *i.e.*, You have my permission to use him as you think proper; if it will best serve your purpose to kill him, do so; earn as much praise as you can at his cost, and through his defeat.
66. „ ‘*Thou wert best look to it.*’ An equivalent expression now is—‘You had better look out.’
67. „ ‘*Mightily grace.*’ Win *honour* at thy cost; gain favour through thy defeat.
68. „ ‘*So villainous.*’ In this speech Oliver has given a true description of his own character, and not Orlando’s. It appears that the adj. *villainous* was in use in Shakspeare’s time, as well as the noun *villain*.
69. „ ‘*Brotherly of him.*’ Truly, kindly, as one brother should of another. We have many adverbs formed from nouns in the same way, as fatherly, motherly, sisterly. See Tom Hood’s “Bridge of Sighs” for more examples.
70. „ ‘*Should I anatomize.*’ Show him piece by piece in his real character, in all his villainy; dissect his evil mind, as an anatomist dissects the body, and not speak of him in general brotherly terms, as I have done.
71. „ ‘*Thou must look pale.*’ Notice the use of the 2nd pers. sing. *thou*. I am of opinion that Shakspeare uses *thou*, because it savours more of familiarity and less of stiffness than *you*. Oliver speaks confidentially to Charles, as though he were telling him some secret. Note also *I’ll* for *I will*, *to’t* for *to it*, *ta’en* for *taken*. These contractions are used to show that Oliver is talking in a familiar and confidential tone.
72. CHAS. ‘*Payment.*’ Fr. *paiement*. (See note 59, Intendment.) Due, pay, chastisement. These words are doubtless used by Shakspeare to accord with the character of the speaker. Phraseology peculiar to sporting characters. And even now, in some parts of England, mastering a person in a pugilistic encounter is called ‘*paying* him.’
73. „ ‘*Go alone again.*’ That is, he will, for the future, require *crutches* to walk with, or an *attendant* to bear him up, or else he will be killed on the spot, thence be carried to his grave.
74. OLIV. ‘*Gamester.*’ One who acts, or plays a part in any game.



75.    „ ‘*Never schooled.*’ Sent to school; verb formed from the subs. school. We have many such formations as this in our language, as *booked* from *book*, *housed* from *house*, &c.
76. OLIV. ‘*Noble device.*’ Grand ideas. ‘It cannot choose but be a *noble plot.*’ (Henry IV.) ‘How he alters his language as soon as left alone; only a minute before he said Orlando’s device was *treacherous*, now it is *noble*.
77.    „ ‘*Enchantingly beloved.*’ Liked by everybody, as though he charmed them.
78.    „ ‘*Altogether misprised.*’ Slighted, scorned, undervalued.
79.    „ ‘*Kindle the boy.*’ Stir up. (See above context to Note 74.)

SCENE II. Enter ROSALIND and CELIA.

80. CEL. ‘*Sweet, my coz.*’ Short for cousin. Also an endearing term used by cousins.
81. ROSA. ‘*Mistress of.*’ The little mirth I have is feigned.
82.    „ ‘*Teach—learn.*’ Here is another instance of Shakspeare’s attention to the suggestiveness of words.
83. CEL. ‘*So thou hadst.*’ So=if only, so that.
84.    „ ‘*Righteously tempered.*’ Evenly, perfectly, or to the same degree of temperature.
85.    „ ‘*Nor none.*’ Judged by the grammars of our day, two negatives coming together destroy each other, and make an affirmative. Shakspeare, however, uses them together in several other places in this play, and indeed throughout the whole of his works; for which we must make allowances, as they were not considered bad grammar in his time.
86.    „ ‘*Perforce.*’ Adv. Forcibly, against his will.
87.    „ ‘*In affection.*’ With the utmost good will. This is in contradistinction to *perforce*.
88.    „ ‘*I prithee do.*’ Contracted from *pray thee*, or, pray to thee=beseech thee.
89.    „ ‘*Fortune.*’ Good luck; here meant to be the goddess Fortune.
90.    „ ‘*From her wheel.*’ The ancients represented Fortune as an *industrious* goddess, who sat continually at her spinning wheel; hence she is considered a good housewife; as Shakspeare calls her, ‘a thrifty woman;’ so that wherever there was a house where an industrious woman presided, she was said to be the *fortune* of the house, because fortune, or prosperity, follows in the train of industry.
91. ROSA. ‘*Bountiful blind woman.*’ Fortune was represented also, as possessed of Amalthea’s horn, from which she scattered plenty wherever she went. She was not blind, but Plutus was, the god of wealth, with whom she was connected on account of the gifts she had to bestow; hence Shakspeare confounds the two, both having one and the same office to perform.
92. OLIV. ‘*Very illfavouredly.*’ Both these words are adverbs; *very* qualifies *illfavouredly*, and both qualify the verb *makes*. It would seem from this that Fortune bestows her gifts, if not impar-

tially, at least compensatingly; she makes the fair dishonest, the ugly honest—the beauty to compensate for the dishonesty, and the honesty to compensate for the lack of beauty. This reasoning of the two cousins would equally well apply at this day.

93. ROSA. '*Lineaments of nature.*' Features, fashions, shapes.

Enter TOUCHSTONE.

94. CEL. '*Fortune fall into the fire.*' Here is an evident attempt at alliteration. The letter F seems to have especially attracted the attention of Shakspeare. He will make up for the weakness of the logic by the extraneous help of jangling sounds.
95. ROSA. '*Nature's natural.*' A 'born fool,' as we say.
96. " '*Cutter off of.*' Off, an adv., of, a prep. Off is sometimes an adj., as the '*off fore leg.*'
97. CELIA. '*For our whetstone.*' Upon which to sharpen their wits. Touchstone itself appears to have suggested whetstone.
98. " '*Wit, whither wander you?*' Here is more alliteration. Shakspeare appears to have fallen upon a vein of alliteration, or perhaps he thinks it will be a diversion from the dulness of the argument, and therefore it may be forced. It must never be forgotten that Shakspeare wrote his plays for the stage, and not for posterity only; he had an eye to the *performing* as well as to the *reading* of the plays.
99. TOUCH. '*Bid to come.*' A verb in the infinitive gov'd. by *bid* does not generally take the sign *to* before it, as, '*Bid me discourse.*' The principal parts of *bid* are, *bid*, *bade*, *bid*, *bidden*.
100. ROSA. '*That oath, fool.*' The oath is, 'by mine honour.' *Fool* is not used here contemptuously. The man was a fool by profession. He talked wit at the banqueting table, to amuse the host and guests.
101. TOUCH. '*Forsworn.*' Perjured; an oath-breaker; prin. parts, *for-swear*, *forswore*, *forsworn*.
102. ROSA. '*Unmuzzle your wisdom.*' Give it fair play, so that it may come forth as freely as an unmuzzled animal can use its jaws.
103. TOUCH. '*That that is not.*' First *that* an indef. adj. pron., *thing* understood—that thing; second *that* appel. pron. agreeing with *thing* understood, and equals *which*. He might have said with equal propriety, though not with equal brevity, '*That thing which is not.*'
104. CELIA. '*Enough to honour him enough.*' Is sufficient to make him an honourable man. I am inclined to favour the reading, '*Enough to honour him. Enough!*' though the former reading is given by Knight.
105. " '*Taxation.*' Latin, *taxatis*; satire, accusation.
106. " '*By my troth.*' Ang.-Sax. *treothe*, means truth, veracity. This word is almost obsolete, scarcely ever used except by Irishmen, who use it with the meaning *truth*.
107. " '*Little wit that fools have.*' Referring to the old custom of

keeping fools to amuse the great and noble, which had, it appears, even at this time, been somewhat discontinued.

Enter LE BEAU.

108. CEL. '*Laid on with a trowel.*' "Coarsely. A gross flatterer is still said to lay it on with a trowel." (Knight.)
109. TOUCH. '*My rank.*' Ang.-Sax. *ranc*; Latin *rancidus*. Rank here means profession, as a wit maker. Rosalind makes a pun on the word, '*a rank smell.*'
110. LE B. '*You amaze me.*' Confuse, perplex, puzzle, bother; not *surprise*, the sense in which this word is commonly used.
111. ,, '*And presence.*' Appearance, air, demeanour.
112. ROSA. '*Bills on their necks.*' Placards.
113. ,, '*By these presents.*' This half sentence, it would seem, was part of the preamble in ancient *bills* or *notices* of amusements, &c. *Presents* is said in imitation, or in mockery, of *presence*, as *old tale of old man*, by Celia.
114. LE B. '*Which Charles.*' Here, which is used as demons. pron., instead of *this* Charles. Shakspeare might have used the relative *who* for both words, which would have been as good sense, only it would not have served the purpose he intended, and that was, to make the relation more emphatic by the repetition of *Charles*, and to impress it more deeply upon the minds of the listeners.
115. ,, '*That there.*' So that, in consequence of which.
116. TOUCH. '*Grow wiser every day.*' The modern 'live and learn' is another edition of this remark of Touchstone.
117. ROSA. '*Music in his sides.*' *Cracking* of broken ribs. This may have suggested the use of bones as instruments of music to minstrels and serenaders of this day, for, doubtless, bones were not used for this purpose in Shakspeare's time. *Bone music* is, I believe, a Yankee invention, but did they borrow the idea from Shakspeare?
- Enter DUKE FREDERICK, LORDS, ORLANDO, CHARLES and Attendants.
118. DK. F. '*His own peril.*' Let him take the consequences.
119. ROSA. '*Is yonder the man?*' Yonder is either used as a dem. pron., which we often use in place of *that* when the person or thing meant is at some distance from us; or else it is used as an adv. of place, '*Is the man yonder?*' in which sense Shakspeare has used it twice before in this scene, '*Yonder they lie,*' and '*Yonder, sure, they are coming.*'
120. CEL. '*Looks successfully.*' Confident of success.
121. DK. F. '*Odds in the man.*' The wrestler is more than a match for the nonprofessional; or, any one may lay odds against the competitor with the professional, and be safe to win.
122. LE B. '*Monsieur, the challenger.*' This is a French idiom.
123. ORL. '*I come but in.*' I come in *simply, only*, &c.
124. CEL. '*Cruel proof.*' Not only *proof*, but *cruel proof*, since the wrestler broke the ribs of three men in his presence.
125. ORL. '*Wherein I confess me.*' Since I confess myself. *Wherein* is here a conj., commonly it is an adv.

126. „ 'Wherein if I.' *In which* if I. Here wherein is an adv. This shows how easily Shakspeare could twist words to suit his own purpose. Perhaps there is some little conceit in using words thus, but it was the fashion of the age, and even he sometimes bended to custom.
127. ROSA. 'To eke out hers.' To supply what is wanting when hers is bestowed. *Eke* is mostly used as an adv., meaning also. 'And eke with all his might.' (John Gilpin.)
128. „ 'Pray Heaven, I be deceived in you.' I pray (to) Heaven, (that) I (may) be deceived in you, as regards strength.
129. CHAS. 'His mother earth.' Chaucer calls the earth 'His mother's gate.' The idea, 'mother earth,' comes from Gen. iii. 19. 'Out of the ground wast thou taken; dust thou art, and unto dust shalt thou return.'
130. „ 'That have so mightily.' Who have so effectually. This is spoken sarcastically.
131. ORL. 'But come your ways.' A common expression; equals 'Come along.'
132. ROSA. 'Hercules, be thy speed.' Hercules was the strongest man among the Greeks. He performed twelve great labours. He was one of Homer's heroes at the siege of Troy; hence Rosalind wishes that Orlando may be endowed with a portion of the same power, and thus distinguish himself before the court. Both she and Celia sympathize with him, a proof that he was 'enchantingly beloved.'
133. ORL. 'Change that calling.' Change that name.
134. ROSA. 'Young man his son.' Young man (to be) his son.
135. CEL. 'Sticks me at heart.' Strikes to the heart. We, at this day, use a similar expression, 'Sticks in my throat.'
136. „ 'But justly.' But (as) faithfully.
137. „ 'All promise.' All likeness to throw the wrestler. Here Shakspeare puts the word *promise* to all its legitimate uses.
138. „ 'One out of suits.' Not on good terms; one whom fortune frowns upon.
139. ORL. 'But a quintain.' French, *quintaine*; an object to be tilted at with the lance, sometimes in the shape of a man—hence the aptitude of the comparison.
140. ROSA. 'My pride fell with my fortunes.' What an aphorism!
141. „ 'Have with you.' An expression denoting a resolution to make some attempt. An equivalent at this day is, 'I'm coming.'
142. ORL. 'Hangs these to rights.' How fine an expression! He could not move his tongue, 'twas weighed down. A heavy heart makes him speechless.  
Re-enter LE BEAU.
143. LE B. 'Or Charles or.' Used instead of 'either Charles or.' Addison has, 'Or act like men, or by yon azure heaven.' Neither—nor, are used similarly. Byron has, 'nor man nor fiend.' There is a licence given to poets to contract or alter.

words to suit their purposes, if they thereby destroy not the sense.

144. LE B. '*Duke's condition.*' Temper, disposition, temperament.
145. „ '*Neither his daughter.*' Neither *is* his daughter. The word *is* is omitted in order that the line may run more smoothly, and have the proper quantity of syllables. It has a syllable too many as it is, but it would not have scanned at all, had *is* been inserted. The word *manners* may be pronounced as one syllable by dropping the letter *e*, and then the verse would run smoothly enough.
146. „ '*Is his daughter.*' Here the verb is used, although the line is thereby made a syllable too long, yet its insertion makes the line scan better than if it had been omitted. We may read it thus :—Büt yēt | indēēd | thē shōr | tēr is | hīs dāughtēr—pronouncing *daughter* as one syllable, which is no more of a stretch, in order to *scan*, than pronouncing *manners* as one syllable in the line preceding.
147. „ 'Thē othēr | is dāugh | tēr tō | thē bān | ished dūke.' I have scanned this line, and here it will be seen that *e* in *the* is elided, thus, Th'ōth, short for the first syllable, or first half of the *foot*. Also dāughtēr is pronounced as two syllables. Milton often elided (cut off) the letter *e* in *the*, in order to make his lines scan, for example :—'Who durst | defy th(ē)omni | potent | to arms.' (Book I., line 49.) 'So spake | th(ē)apos | tate an | gel, though | in pain.' (Book I., 125.) 'That led | th(ē)embat | tled se | raphim | to war.' (Book I., 129., 'Par. Lost.') This is *iambic metre*, of *five feet* to the verse, and two syllables to the foot, first syllable *short*, second *long*—the metre which Shakspeare uses in all his speeches and declamations, &c., but not in his odes, of course.
148. „ '*Whose loves.*' The pl. of the noun *love*. It means the *love* of each one taken together, and is nom. to verb *are*. Some abstract nouns have the pl., *e.g.*, virtues, vices. See end of fifth line from this below.
149. ORL. '*I rest much bounden.*' I *remain* much *indebted*. Bounden was formerly the past partic. of *bind*—bind, bound, *bounden*; now it is only used as an adj., as, '*bounden duty.*'
150. „ '*Smoke into the smother.*' What a fine comparison! He can't be comfortable with either of them. 'From smoke into the smother,' was probably a proverb in Shakspeare's time. We have a modern one which smacks very much of the ancient one, 'Out of the frying pan into the fire.'

SCENE III.—A Room in the Palace.

Enter CELIA and ROSALIND.

151. CEL. '*Cupid have mercy!*' Cupid was the god of love; hence Celia invokes him not to shoot such keen arrows into the heart of Rosalind, and so make her sad.
152. CEL. '*Lame me with reasons.*' Throwing words has suggested the idea of throwing stones, and the analogy between

the two actions suggests the like consequence from each ; 'lame me with reasons,' as you would lame me by *throwing stones* at me. (This may be considered 'a lame tale'—but '*every man in his own humour.*')

153. ROSA. '*Mad without any.*' She probably means that if she were to throw her reasons at Celia she would be deprived of reason herself, and so be *mad*.
154. " 'Cry *hem* and *have him.*' Play with words as usual. Though it seems a bit of a stretch to make *hem* to be pronounced like *him*, yet such punning may be allowed to two girls.
155. " '*A better wrestler.*' Orlando, of course, she means.
156. CEL. '*Kind of chase.*' Argument, reasoning, deduction.
157. " '*His father dearly.*' Exceedingly, heartily, mortally. We do not now apply this adv. to qualify a feeling of *hatred*, but only of *love*.

Enter DUKE FREDERICK, with LORDS.

171. DK. F. '*Mistress, despatch.*' The young reader will observe that *Mistress* is here used instead of *Miss*. In Shakspeare's time, married and single were promiscuously called *Mistress*, and even down to our own time almost *men* were called *Master* and not *Mr.*

EDUCATION INDIRECTLY REQUISITE TO THE APPRECIATION OF NATURE.—At any time and under any circumstances of human interest, is it not strange to see how little real hold the objects of the natural world among which we live can gain on our hearts and minds? We go to nature for comfort in trouble, and for sympathy in joy to books. Admiration of those beauties of the inanimate world, which modern poetry so largely and so eloquently describes, is not, even in the best of us, one of the original instincts of our nature. As children none of us possess it; no uninstructed man or woman possesses it. Those whose lives are most exclusively passed amid the ever-changing wonders of the sea and land are also those who are most universally insensible to every aspect of nature not directly associated with the human interests of their calling. Our capacity of appreciating the beauties of the earth we live in is, in truth, of the civilised accomplishments which we all learn as an art; and more, that every capacity is really practised by all of us except when our minds are most indolent and most unoccupied. How much share have the attractions of nature ever had in the pleasurable or painful interest and emotions of ourselves or our friends. All that our minds can compass, all that our hearts can learn, can be accomplished with equal certainty, equal profit, and equal satisfaction to ourselves, in the poorest as in the richest prospect that the whole earth can show. There is surely a reason for this want of innate sympathy between the creature and the creation round it, a reason which may perhaps be found in the widely differing destinies of man and the earthly sphere. The grandest mountain prospect that the eye can reign over is appointed to annihilation; the smallest human interest that our pure heart can feel is appointed to immortality.—*Wilkie Collins.*

## UNIVERSITY INTELLIGENCE.

## CAMBRIDGE.

**S**OME time ago a Syndicate was appointed at Cambridge, and more than once referred to in these columns, to consider whether some improvements might not be made in the Classical Tripos examination. After proposing various schemes which have been discussed in the Senate without being adopted, they have at length hit upon a sort of compromise to meet the claims both of pure scholarship and philosophy. They recommend that a new paper be added on classical philology, and others containing passages for translation from Greek and Latin philosophers and rhetoricians, with questions on the subject matter both of the passages and the works from which they are taken, the examination being interrupted by an interval of two days. They also propose that candidates for the Chancellor's Medals be no longer required to obtain the mathematical honour of Senior Optime, and that the names of those who have distinguished themselves at the examination be published in alphabetical order. The discussion of the proposals in the Senate indicated a general disposition to accept them as a final settlement of a vexed question which ought not to be kept open any longer.

## OXFORD.

Several exhibitions have been announced for competition at the Oxford Local Examinations which commence at the various centres on the 24th May next. The Provost and Fellows of Worcester College offer one exhibition of the annual value of £55, and tenable during residence for four years. It will be offered in succession to those senior candidates who shall obtain the highest places in the first division of the general list, provided they are placed in the first division of one, at least, of the first four sections of the examination. The exhibitioner will commence residence in January, 1870, and will be required to pass his first University examination (Responsions) not later than his second term. Beyond the cost of living and personal expenses, which will be under the exhibitioner's control, the only payments to be made will be an entrance fee of £2 10s. to the University, and the following annual charges:—Furnished lodgings and charges, £15; tuition, £21; University dues, £1. The Master and Fellows of Balliol College have offered for competition two exhibitions, of the annual value of £40, tenable during residence for four years. They will be offered to those among the senior candidates who shall obtain the highest places in the first division of the general list, provided that they are also placed in the first division of the section "Languages." The exhibitioners will be expected to produce testimonials of good conduct. They will commence residing not later than October, 1870, and will be required to pass the first of their University examinations (Responsions) within six months. The exhibitioners will have the option of residing within or without the College walls.

## CORRESPONDENCE.

## ORTHOGRAPHY.

*Warwick Lodge, Surrey, S.E. May 12th.*

SIR—I have just read a very able article from the *Spectator*, in your number of this month, and am induced by its perusal to give you a little of my experience connected with the matter in hand. I do not hold with the writer as regards dictation entirely, as I know that by its agency the worst of spellers, unless he be absolutely a fool, may in time be made to spell very fairly. "Practice makes perfect," is the best motto for a bad speller, and I know of numerous instances where young men have been able after a few months of assiduity to write ordinary English free from orthographical errors.

Perhaps, however, the plan advocated by Bernardin de St. Pierre is the best that can be adopted, conjointly with dictation, to get over so deplorable an infirmity as ignorance of spelling may justly be termed. This plan consists simply in copying daily passages from some good author, in which either the description or narration is such as to interest the attention of the copyist. The eye and the brain thus act together, and both convey to the memory that orthographical correctness which only use can give.

I say emphatically that dictation should be the daily opening lesson in all schools, and I say this after having proved the necessity for it. If you begin to dictate to children, it is astonishing how rapidly you will teach them writing, spelling, and composition; and I would earnestly impress on every teacher the value of early instruction in these respects.

I am, sir, your obedient servant,

G. DE BEAUCHAMP STRICKLAND.

## COMPULSORY EDUCATION.

*To the Editor of the Quarterly Journal of Education.*

SIR,—Among the subjects upon which the present Parliament will be called to deliberate, it appears likely that the question of popular education will occupy a prominent position. And as in connection with this matter a system of compulsion has been mooted, to the gratification of some and the alarm of many, a brief review of the reasons which may be advanced in favour of such a measure, may, perhaps, be deemed worthy of attention.

It cannot, I suppose, be denied that the education of the people is desirable from a social and national point of view, and that in proportion as knowledge and intelligence are extended, the order and security of the social fabric are secured. There can be no doubt that the lack of educational advantages has been an insuperable barrier to the development of many minds of transcendent power, and has caused a serious loss not only to the individual, but indirectly to the State. And although the frequent quotation of Gray's beautiful lines—

" Full many a gem of purest ray serene  
The dark unfathomed caves of ocean bear,  
Full many a flower is born to blush unseen,  
And waste its sweetness on the desert air—"

has tended to overlay the question of mental non-development with a



vast amount of sentimentalism, there is in them nevertheless a solid substratum of fact which neither ridicule nor inattention can dispose of.

I conceive, however, that the true ground on which to base the plea for education is the *INNATE RIGHT* of every child, to receive such education as shall be instrumental in removing mental torpor, and by developing the latent faculties of the mind, rescue it from that pitiable state of helplessness in which the utterly ignorant are found.

Upon whom then does the burden of this duty fall? Undoubtedly upon the parents of the children—in the same way, and as imperatively as does the duty of providing for their bodily wants. Knowledge is as necessary for the mind, as food and raiment for the body. And as the mind is the superior and the body the inferior part of our organisation, it surely must be, if anything, more criminal to starve the former than to neglect the latter. If it is objected that in many cases the parents are unable, or unwilling, or it may be both, to provide for the minds of their children, it may be replied that (in spite of Mr. Mill's teaching about matrimony) the same thing occurs with respect to the bodies of the children.—But what then?—And here lies the very essence of the question of compulsory State education—are the children allowed to starve because the parents are poor or culpable? Nay, verily; in the interests of the children, and therefore in its own interest, the State steps in, and where the parents are able compels them to do their duty; in other cases it assists, and in other cases again it takes the whole burden upon itself. The State thus recognises the duty as primarily a parental one, but at the same time declares that under no circumstances of parental inability or indifference shall the duty be left undone. I believe that the advocates of compulsory education ask for nothing more than that the same principles and practices shall be established with reference to the minds of children, as already exist with reference to their bodies.

Any objection to compulsory education founded on interference with the liberty of the subject must apply with equal force to the poor laws of the land. No one pities a man because the State does not allow him to starve his child's body; why then in the name of consistency and common sense is he to be allowed to follow his own whims and caprices with reference to the mind? Why rescue and defend the casket and let the gem be destroyed without concern? Why gather the mere shells of humanity into the garner of safety with scrupulous care, and let the precious contents be scattered?

But there is of course the religious difficulty. Many are afraid that religion will suffer from neglect if education of a secular character only be given in our schools. Now I yield to no one in my estimate in the value of religion, but at the same time is it not evident that secular State education affords the only means of strict justice and impartiality to numerous and widely-differing denominations. I would especially point out to such objectors that they are grasping at a shadow and losing the substance, for while they are straining after a religious education vast numbers of children are growing up without any education whatever. While these well-meaning friends are striving to get them the privilege of reading for instance the Bible and the Catechism, the opportunity of

learning to read slips away and the children are left not only unable to read the Bible in the school but unable to read the Bible or any book anywhere. The simple solution of the matter is to let the religious work of the country be carried on by its own agencies, who will not find themselves any the worse off because the State has taught the people they preach to, to be able to read, or has put them in possession of useful knowledge. At a recent meeting on behalf of the ragged schools at Edinburgh, Dr. Guthrie remarked:—If they wanted to make a child a little Episcopalian, or a little Wesleyan, he thought it was as absurd as to make him a little Whig or a little Tory. What was catholic ought to be taught in the school, and what was sectarian or denominational ought to be taught out of it.”

I am, Sir, Yours obediently,

A. B. C.

### TRIGONOMETRY.

$$1. \quad \begin{aligned} \text{Sin. } A &= \text{Cos. } A \quad \text{Tan. } A \\ &= \text{Cos. } A \quad \frac{\text{Sin. } A}{\text{Cos. } A} = \text{Sin. } A \end{aligned}$$

$$2. \quad \begin{aligned} \text{Cos. } A &= \text{Sin. } A \quad \text{Cot. } A \\ &= \text{Sin. } A \quad \frac{\text{Cos. } A}{\text{Sin. } A} = \text{Cos. } A \end{aligned}$$

$$3. \quad \begin{aligned} \text{Tan.}^2 A \quad \text{Cot. } A &= \text{Tan. } A \\ \text{Sin. } A \\ \frac{\text{Sin.}^2 A \quad \text{Cos. } A}{\text{Cos.}^2 A \quad \text{Sin. } A} &= \frac{\text{Sin. } A}{\text{Cos. } A} = \text{Tan. } A \end{aligned}$$

$$4. \quad \begin{aligned} \frac{\text{Cos. } A}{\text{Sin. } A \quad \text{Cot.}^2 A} &= \text{Tan. } A \\ \text{Cos. } A &= \text{Tan. } A \cdot \text{Sin. } A \cdot \text{Cot.}^2 A \\ &= \frac{\text{Sin. } A \cdot \text{Sin. } A \cdot \text{Cos.}^2 A}{\text{Cos. } A \quad \text{Sin.}^2 A} = \text{Cos. } A \end{aligned}$$

5. Given  $\text{Tan. } A = \frac{3}{4}$ , find the other trigonometrical ratios.

$$\begin{aligned} \text{Sin. } A &= \frac{\text{Tan. } A}{\sqrt{(1 + \text{Tan.}^2 A)}} = \frac{\frac{3}{4}}{\sqrt{(1 + \frac{9}{16})}} \\ &= \frac{\frac{3}{4}}{\sqrt{1 + \frac{9}{16}}} = \frac{\frac{3}{4}}{\sqrt{\frac{25}{16}}} = \frac{\frac{3}{4}}{\frac{5}{4}} = \frac{3}{5} \end{aligned}$$

$$\text{Cos.}^2 A = 1 - \text{Sin.}^2 A = 1 - \frac{9}{25} = \frac{16}{25} = \left(\frac{4}{5}\right)^2$$

$$\text{Cos. } A = \sqrt{\frac{16}{25}} = \frac{4}{5} \quad \&c. \quad \&c. \quad \&c.$$



∴ these four angles are all equal to one another.

Again, because angles BCG and CDE are equal, and also BGC and CED (each being a right angle), and BC=CD, ∴ (I. 26) BG=CE, and CE=OF (I. 34).

If GO be joined, then angle BOG would be greater than a right angle, and ∴ (I. 19) BG is greater than BO.

∴ CE is greater than BO. ∴ BG and CE or 2 CE is greater than BO and OF or BF.

$$\frac{CE}{AC} = \sin A; \frac{2CE}{AC} = 2 \sin A; \frac{BF}{AC} = \sin 2A.$$

But as 2CE is greater than BF,

$$\therefore \frac{2CE}{AC} \text{ or } 2 \sin A \text{ is greater than}$$

$$\frac{BF}{AC} \text{ or } \sin 2A.$$

10. Find  $\sin A$  from equation  $\tan A + \sec A = a$ .

$$\tan A = \frac{\sin A}{\sqrt{1 - \sin^2 A}} \quad \sec A = \frac{1}{\sqrt{1 - \sin^2 A}}$$

$$\therefore \frac{\sin A}{\sqrt{1 - \sin^2 A}} + \frac{1}{\sqrt{1 - \sin^2 A}} = a$$

$$\frac{\sin A + 1}{\sqrt{1 - \sin^2 A}} = a. \quad \text{Squaring both sides, we obtain}$$

$$\frac{(\sin A + 1)(\sin A + 1)}{1 - \sin^2 A} = a^2$$

$$\frac{(\sin A + 1)(\sin A + 1)}{(\sin A + 1)(1 - \sin A)} = a^2$$

$$= \frac{\sin A + 1}{1 - \sin A} = a^2$$

$$= \sin A + 1 = a^2 - a^2 \sin A.$$

$$= \sin A + a^2 \sin A + a^2 - 1.$$

$$= \sin A (1 + a^2) = a^2 - 1.$$

$$= \sin A = \frac{a^2 - 1}{1 + a^2} \quad \text{Ans.}$$

## NOTICES OF NEW BOOKS.

*Schools and Universities on the Continent.* By MATTHEW ARNOLD, Foreign Assistant Commissioner to the Schools Inquiry Commission. Macmillan & Co.

IN his capacity of "Foreign Assistant Commissioner to the Schools Inquiry Commission," and as one of Her Majesty's Inspectors of schools, Mr. Arnold has had signal opportunities of comparing primary and secondary education in our own country with that of the several European States he officially visited; of these opportunities Mr. Arnold has fully availed himself; and the result of this comparison is given in the work before us, which is a valuable addition to our information upon education on the continent of Europe.

In this notice of Mr. Arnold's book we propose to present in as small a compass as possible some of the more important facts brought under our notice by Mr. Arnold while investigating the system of Education for the Middle and Upper Classes which prevails in France, Italy, Germany and Switzerland.

"It is," says Mr. Arnold, "the Education of the poor not the Education of the Middle and Upper Classes which principally occupies attention in this country at present. In Switzerland more than in any other country with which I am acquainted, all classes use the primary school, and in Switzerland therefore I had occasion to touch upon the primary school—the school of the poor—because there this school forms a link in the chain of schools in which the Middle and Upper Classes are educated."

Accordingly the English reader will find a full account of the primary school in Canton Zurich, a region free like England, industrial like England, protestant like England. "School attendance is obligatory there, and the schools are very good." Mr. Arnold enters fully into the fallacy of the statements of Sir John Manners with Messrs. Pease, Wilson, Spencer, Barnes and Morley, that the proportion of scholars to population in England might be considered on an equality with Prussia.

"For France or Prussia such statistics are got from a series of administrative authorities, with machinery and power to collect them. For England the statistics come from the Education Commissioners of 1859. These Commissioners have themselves told us how they procured their information. They had no series of administrative authorities through whom to collect it; such a series does not exist in England; it could not, as we are often told, be tolerated by a high spirited and intellectual people like ourselves. The Commissioners sent enquirers, with no power to enforce an answer to their questions, through about one-eighth of England; and from the information thus obtained for about one-eighth of the country they made a generalization as to the remainder."

Further on Mr. Arnold boldly asserts "The English Commissioners *guess* their proportion, the foreign authorities know theirs."

Another fallacy is thus dealt with—"England, says the Secretary of the National Society, is in advance of Holland and France, and not far behind Prussia, because our proportion of schools to population is not far behind Prussia's and is in advance of that of Holland and France."

"I feel," says Mr. Arnold, "that I ought to apologise in passing to that admirably educated people the Dutch, for ever quoting what they must think such an impertinence as the assertion that England is in population and education ahead of Holland, but the impertinence comes in truth from those who utter it being the victims of an ambiguous use of words. They do not know what the continental nations mean by the word *scholar*. They do not know that the continental nations and we mean something wholly different by it. Prussia means by a scholar a child who has been subjected from his sixth year to his fifteenth, to obligatory instruction, either in public schools, under certificated teachers who have had three years' training in a Normal School or in Private Schools under teachers who produce the same, or higher guarantees of competency. France means by a scholar, a child who is either in a public school under a certificated teacher, or in a private school under a certificated teacher. Both public and private schools must be under certificated teachers, and both are liable to State inspection."

Speaking again of England, Mr. Arnold says "All that is certain is, that the proportion of 1 to 7 is not the true one because it counts very many children as scholars, who on the Continent would not be counted as such."

On the question whether the Education of this country should be compulsory or no, Mr. Arnold's remarks, "Therefore I do not think the example of Prussia and Switzerland will serve to show that compulsion of education is an insignificant thing: and I believe that if ever our zeal for the cause mounts high enough in England to make our popular education bear a favourable comparison, except in the imagination of popular speakers, with the popular education of Prussia and Switzerland, this same zeal will also make it compulsory."

One of the most interesting chapters of Mr. Arnold's Book is that on the "Character of Discipline and Instruction in the French Secondary Schools." But all the chapters, seven in number, on Education in France are full of interest. From that on the Lycées of Paris we extract the following comparing these with our great classical schools.

"The seven great classical schools of Paris are the Lycées Louis le Grande, with 1,330 scholars; Bonaparte, 1,220; Charlemagne, 930; Saint Louis, 800; Napoleon, 688; Stanislas, 620; Rollin, 380."

The Lycée of Vanves, a mile or two out of Paris, formed to relieve Louis le Grande of its little boys, and to give them country air, has 700 scholars; but without counting Vanves the seven great schools of Paris contain very nearly 6,000 scholars.

To the education of Germany Mr. Arnold devotes seven chapters—

1st. Development of the German Secondary schools.

2nd. Present organisation of the Secondary or Higher Schools in Prussia.

3rd. Government and Patronage of the Prussian Public Schools.

4th. Preponderance of Public Schools. The Abiturientenexamen.

5th. The Prussian Schoolmasters; their training, examination, appointment, and payment.

6th. The Prussian system seen in operation in particular schools.

7th. Superior or University instruction in Prussia.

Concerning the public schools in Prussia, Mr. Arnold says :—

"I believe that the public schools are preferred, in Prussia, on their merits. The Prussians are satisfied with them, and are proud of them, and with good reason; the schools have been intelligently planned to meet their intelligent wants. But the preponderance of the public schools is further secured by the establishment in connection with them of the 'leaving examinations' on which depends admission to the Universities, to special schools like the *Gewerbe Institut* or the *Bauakademie*, and to the civil and military service of the State. The learned professions can only be reached through the Universities, so the access to these professions depends on the leaving examination. The pupils of private tutors or private schools can present themselves for this examination, but it is held at the public schools, it turns upon the studies of the upper forms of the public schools, and it is conducted in great part by their teachers. A public schoolboy undoubtedly presents himself for it with an advantage; and its object undoubtedly is, not the illusory one of an examination test as in our public service it is employed, but the sound one of ensuring as far as possible that a youth shall pass a certain number of years under the best school-teaching of his country. This really trains him, which the mere application of an examination-test does not; but an examination-test is wisely used in conjunction with this training, to take care that a youth has really profited by it. No nation that did not honestly feel it had made its public secondary schools the best places of training for its middle and upper classes could institute the giving examination I am going to describe; but Prussia has a right to feel that she has made hers this, and therefore she had a right to institute this examination. It forms an all-important part of the secondary instruction of that country." Mr. Arnold believes that by these means, Prussia secures what we fail in. "That a boy shall have been for a certain number of years under good training is what, in Prussia, the State wants to secure; and it uses the examination-test to help it to secure this. We leave his training to take its chance, and we put the examination-test to a use for which it is quite inadequate to try and make up for our neglect."

Of the Inspection of Schools on the Continent, Mr. Arnold says :—

"I have seen Dutch, German, and Swiss schools. I have seen their inspection; and I think both them and their inspection, in general, better than our schools and inspection at present."

Mr. Arnold believes that England must follow the example of France, and all the most 'progressive states on the continent, in transforming her civil organisation. He remarks that—

"Even an energy like hers cannot exempt her from the obligation of obeying natural laws; and yet she tries to exempt herself from it when she endeavours to meet the requirements of a modern time and of modern society with a civil organisation which is, from the top of it to the bottom, not modern."

By commencing with, and by the happy accomplishment of, that part which relates to education, and which Mr. Arnold considers is, indeed, the most important, as that of all the rest, instead of being troubled and difficult, may be made gradual and easy.

*Mangnall's Questions. Illustrated Edition.* Revised and extended by FRANCIS YOUNG, F.R.G.S. T. J. Allman, 463, Oxford Street.

THE first publication of this book constituted a new era in the annals of scholastic literature. Since that time it has passed through many editions, and been imitated by various writers, who, however, have been unable to improve upon it. For two classes, works of this kind are necessary: viz., those whose education has been neglected, and those who, from various causes, are unable to spend much time in gaining knowledge. At all times, in all places, and under all circumstances, a certain amount of knowledge is desirable, nay, in many instances necessary to keep one from looking ridiculous. No one likes to be thought unable to comprehend, or to carry on conversation in the drawing-room or dining-room, no matter what is the topic under discussion. To be able at all times to keep the interest of your guests from flagging, a comprehensive, and an almost unlimited amount of reading is required. Very few people indeed have time or talents sufficient to make them shine as gems of the purest water. Limited time compels superficial attainments, yet one is able to gain by judicious management enough instruction from the work before us, to take part in any ordinary discussion involving a knowledge of the subjects contained therein.

The subject-matter of this volume may be conveniently divided into the following parts:—Historical, Biographical, Astronomical, Mythological, and Botanical, to which is added a short chapter, containing translations of various Latin phrases frequently used in current literature.

The Editor of the present edition has introduced several new and valuable features, not the least of which is the excellent illustrations. The correctness of the various dates mentioned has been verified. The historical and other matter has been re-arranged and carried down to the present time, as will be seen from the following extract:—

“*What Noteworthy Events occurred from 1861 to 1869?* \* \* \* \*  
\* \* \* \*. In 1868 Isabella II. was compelled to quit Spain by the successful progress of a revolution headed by Marshall Serrano, General Prim, and Admiral Topete, while this year and the following was signalled in the United Kingdom by Mr. Gladstone's measure for disestablishing the Irish Church, and depriving it of its endowments.”

It seems rather singular when speaking of living celebrities to mention them in the past tense—thus, p. 149, VICTORIA. \* \* “The most eminent statesmen of this reign *were*, the Earl of Derby, &c.” Sometimes a question is asked, but not answered, as p. 309—“*What is Æther?*” Æther is made by distilling acids with rectified spirits of wine.” This is really an answer to the question: “How is æther obtained?”

The printing, paper, and binding of this volume are exceptionally good, and make it a valuable addition to the school library. Great praise, too, is due to the Editor for the able manner in which he has performed his labours, and we cordially recommend our readers to consult this last edition of Mangnall's Questions, whence, we believe, they will gain both enjoyment and profit.



*Curtis's Junior Reader.* BY JOHN CHARLES CURTIS, B.A., Principal of the Training College, Borough Road, London, Author of a "School and College History of England," etc. Simpkin, Marshall, and Co.

THIS Junior Reader consists of fables, fairy tales, stories, chiefly of natural history and adventure, descriptive sketches, and a selection of poetry. Hans Christian Anderson, Charles Dickens, Archbishop Trench, Dr. J. Brown, George Macdonald, Lowell, Longfellow, Whittier, and other popular favourites (including some of our best earlier writers), are laid under contribution. The majority of the pieces now appear in a Reader for the first time; they have the merit of not being too long, and are well adapted to interest the minds of children. It is a good, cheap, strongly bound volume, very suitable for school use.

*The Elements of Latin Syntax; with Short Exercises; for the Use of Schools.* BY W. H. HARRIS, B.A., B.Sc. (Lond. Univ.), F.G.S. Hodder & Stoughton.

THIS treatise is compiled by a teacher of many years' experience in classical teaching on the basis of the larger works of Madvig, Zumpt, and Key. For reasons assigned in the preface, he "has thought it well to publish the elements of Syntax entirely separate from the accidence and general grammar." Besides short exercises, the work also contains miscellaneous examples for translation into Latin, and a vocabulary.

*Essays on Counsels, Civil and Moral.* BY FRANCIS BACON, Lord Verulam, Viscount St. Albans. Bell & Daldy.

A CHARMING pocket edition of a work which, both in matter and form, is confessedly one of the masterpieces of its great author and of English literature. It is the most popular of his works, and it deals with topics in which all are interested. It would be an excellent presentation volume to pupils leaving school, one that they would appreciate the more they read it. Mr. Singer, the editor, has sought by a careful collation of the author's own edition, to give a more correct text than is to be found in most of the editions hitherto published. He has also added to the value of this edition, by a glossary and index. It is printed in good, clear type, on toned paper.

*Examination Questions on French Grammar.* 1s. 6d. BY P. GUESDON, M.A. Longman, Green & Co.

WE gather from the remarks made at the commencement of this little work that the author has previously published a French Grammar, and that this series of progressive questions is based upon that work. M. Guesdon would perhaps have made his book more useful, had he allowed himself a wider range, and adapted the questions to the principal grammars at present in use. Certain it is that any candidate who could answer the questions here proposed, without the aid of a text-book, might be said to have mastered the grammatical portion of the language, and would not fail to answer any paper in his examination. As a means of testing the pupil's knowledge by recapitulation exercises, the book will be found useful in our schools and colleges; for private students, who are about to enter into competitive or other examinations, it will be invaluable.

*Odyssey, Lib. 1st, Notes and Analysis of.* EDGINTON'S TRANSLATION.  
London: Longmans & Co.

The Greek subject for the Matriculation Examination at the London University, June, 1870, is Homer's *Odyssey*, Book XI. The following Notes on Book I. are given to the Students as preparatory to those on Book XI.

WE turn to the 32nd line of the First Book of the *Odyssey*, to notice some forms in the Greek, and to give translations of some portions in prose. For the advantage of those who are private students we will then analyse certain portions, and point out constructions; and we advise such to notice, as closely and carefully as possible, phrases and words peculiar, or but once used; or used in that form but once; to notice quantities of words; and also words of nearly similar meaning used by Homer. After we have examined about one hundred and twenty lines, we will draw out some words, and let the student test for himself, as faithfully as possible, how much or how little of this he can satisfactorily answer. There will be one decided advantage in this—he will acquire a habit of close observation, which is invaluable. It is not our intention to supersede the labour and inquiry of the student—only to stimulate; and therefore he had better be provided with good dictionaries, and never pass over what he is not quite sure about.

Here, then, is the speech of Jupiter, in the halls of Olympus: “Alas! how much (and uselessly) do mortals blame the gods; for, from us, say they, evils come. But they, too, procure troubles to themselves, beyond fate; as also now Ægisthos, beyond his fate, (in both cases *ὑπὲρ μόρον*) took to himself (*γῆμι*, married) the married wife of Agamemnon, whom he slew on his return, knowing well the deep ruin, since we forewarned him, (having sent Hermes the watchful slayer of Argos) neither to slay him nor to wed (*μνάσθαι*, seek to marry, woo,) his spouse. For from Orestes shall come retribution on account of Agamemnon, when he shall have reached manhood, and desire his own land. So Hermes told him, but he did not persuade the mind of Ægisthos, though designing good. But now he has paid the full penalty.”

*Οἷον δὲ νυ*, How much indeed then; *νυ* is enclitic, and wants accent, for *νῦν*, and means then.

*θεός*, accus. pl. of *θεός*, *ου*, by *αἰτιῶνται*; which is 3rd pl. pres. ind. of *αἰτιάομαι*, contracted, *ᾧμαι*, future *άσομαι*, “ο” inserted for scanning, as in *αντιωάσω*, line 25, “ο” is inserted.

*Βροτοί* is nom. pl., agreeing with this verb.

33. *ἔμμεναι* is pres. inf. of *ἔμιμναι*, *ἔσομαι*, old and lengthened form of *εἶναι*, which is contracted in the first syllable by elision of *μ-εἶναι*, and contraction of the vowels *εἶναι*.

*κατά* is accus. pl. neuter before infin. *ἔμμεναι*.

*ἐκ*, or *ἐξ*, denotes source or origin.

34. *σφῆσι* from *σφός-ή-νι*, dat. pl. fem. Ionic.

*ἄλγος* = *ἄλγος*, from *ἄλγος-εος τό*, evils, governed by *ἐχουσιν*.

ὑπὲρ μόρον, above, or beyond fate; and same in next line, ὑπὲρ. Latin super. δύσμορος, compound of μόρος, occurs line 49, and is "ill-fated." In line 166 πᾶκον μόρον, evil destiny; and line 266 ὠκύμοροι occurs, the only other compound of μόρος in this book, swift-fated, "and all perhaps would be swift-fated," that is "short-lived." The translator has given a more modern sentiment. Homer does not deny fate.

35—40. γῆπ' for ἐγῆμε, 3rd sing. 1st aor. of γαμῖω, take to wife; said of man, with acc. passive of woman.

ἄλοχον μνηστῆν, Ἀτρεΐδαο μνηστῆν, one promised, from μνάσμαι. The adjective is μνηστὴς-ῆ-όν, wedded.

ἄλοχος-ου ἡ, sharer of bed; of ἅμα, together, λῆχος-τοστέ, bed. Ἀτρεΐδαο is Ionic gen. from Ἀτρεΐδης-ου and αο, Patronymic, son of Atreus, who was a son of Pelops; Agamemnon here, Menelaus was the other.

τὸν δέ, has force of relative, and him = whom; governed by ἔκραν; and this is 3rd sing. 2nd aor. of liquid verb κτείνω, shortened future κτενῶ, according to the rule of liquid verbs.

νοστήσαντα is acc. sing. 1st aor. part., agreeing with τὸν.

εἰδώς, perf. act., used as pres., from εἰδέω-ήσω, perceive; πρὸ is separated from εἰπομεν.

οἱ, dat. sing., by verb, gave to him warning beforehand.

πέμψαντες agrees with ἡμῖν, "we sent and forewarned him." The way in which a participle may be joined to the principal verb, forewarning (προεΐπομεν) is the chief thing, the principal verb.

For the other words here turn to the articles "Hermes" and "Argiphontes," in Dr. Smith's Classical Dictionary, or any good classical dictionary.

μῆτε - μῆτε μνάσθαι ἄκοιτιν, verb is pres. infin. ἄκοιτις-ιος and ιδος, genitives, and the word fem.

40—43. ἐκ Ὀρέστου. . . . "From Orestes shall proceed the revenge of Atrides."

τίσις-εως; Ἀτρεΐδαο may be governed by ἕνεκα, "on account of;" or we can say simply "the vengeance of Atrides." This use of the gen. may be compared with the use of Danaum by Virgil, in the opening of the Æneid. The ground idea of the genitive is "proceeding from," but here it comes from Orestes.

ἔσσεται, idea of "arising from."

ὀππότε ἂν ἡβήσῃ. This participle (joined here with subj. of 1st aor. of ἡβάω-ήσω, "come to man's estate,") gives idea of contingency. Observe the future has no subjunctive, and the whole has the force of a future perfect.

καὶ ἥς ἱμείρεται αἶψα. ἱμείρεται is present of ἱμείρομαι, desire. Homer uses another verb ἵεμαι (middle of ἵημι) to send one's self after, rush eagerly, hence desire; ἱμείρομαι is natural longing, and takes as verb of desire, ἵς . . . αἶψα in the gen.; ἥς is for σῆς, his. The aspirate takes the place of σ; αἶψα=γαίης.

ἀλλ' αὖ φρένας . . . . The translator is short here, but better as in our prose text.

**πειθ'** = **πειθε**, 3rd sing. imper. of **πειθω-σθαι**, persuade, and takes accus. **φρένας**. This is from **φρήν-ένος** ἡ, mind, heart.

**Διγίστοις** is Ionic gen.

**φρονέων**, nom., agreeing with **Ἑρμείας-ου**, gen.; and the form poetic for **Ἑρμῆς**.

**νῦν δέ . . . ἀπέτισεν**, 1st aor. act. of **αποτίνω-τίσω**, pay penalty.

Translation, line 44. "And him then, Athene, blue-eyed goddess answered—

"Dear father, son of Kronos, highest of kings, truly (**λίην**) he lies in like ruin. So also let every one perish who may do such things. But my heart is torn about brave Ulysses, ill-fated, who indeed for a long time in sea-girt isle is suffering loss from his friends; the wooded isle, where also is the centre of the sea. And in its palaces a goddess dwells, daughter of the evil-minded (**δολόφρονος**) Atlas, who knows the depths of every sea, and himself sustains the long pillars which keep earth and heaven apart. His daughter detains the unhappy, weeping *chief*, and ever charms with soft and flattering words, so that he shall forget Ithaca. But Ulysses eagerly wishing to see the smoke rising from this land, desires to die. But not even now is thy dear heart, Olympian, turned to him; yet, did not Ulysses, performing sacred rites beside the ships of the Greeks, please thee, in broad Troy? Why then art thou so angry with him, *Jove*?"

Line 46—61. **εἰκότως** **καίτοι** **ὀλέθρῳ**; **εἰκώς** is "like," "similar." Ægisthus suffered death too—slain in the Temple by Orestes—and hence his fate was "like," "similar," to that he inflicted and was warned about. This word has three forms, **εἰκώς**, **οἰκώς**, and this one in text—Homer's usual form.

**ὥς ἀπόλοιο**, 2nd aor. 3rd sing., optative, used for wish.

**δε δὴ δὴθὰ φίλων ἄπο . . .** The translator makes **ἄπο**, equal, "far off," but it means the source of the hurt. It came from friends, while he was in Calypso's isle, (Ogygia), not because he was not near friends who were ready to help him, but could not, because of his distance. His friends were eating him up; only *so called* then.

**νήσῳ ἐν ἀμφιρύτῃ**, neatly "sea-girt." Calypso's, also called "**δρυαλός . . . θαλάσσης**" and "**νήσος δανδρήσσαι**."

**θεὰ δ' ἐν δώματι ναίει**; **εν** belongs to **ναίει**, and then inhabit.

"**Ἀντλαντος θυγάτηρ δολόφρονος**, evil-minded. The compound decides; from **ἄλλυμι**. Atlas was one of the Titans, and King of Mauritania. Part of the fable about him is in the Greek text here.

54. **ἀμφίς** is "apart." Hardly so grand as Edginton's line is, as neat and simple.

**δυστήνων δδυρόμενον κατερέκει**, very unhappy, weeping (pres. part.) chief, of **δυσ** and **σῆμαι**, inf. 2nd aor. of **ίστημι**.

56, 57. **ὅπως**—"in order that," so that, the purpose of all her coaxing.

**ἐπιλήσεται** is from **λανθάνω** (root **λήθω**), fut. **λήσομαι** forget. It takes the gen. Verbs "to remember," or "forget," take gen.

58. *νοῆσαι* is 1st aor. inf. and governs acc. It is not "then" die, but expresses wish in past time.

59. The translator begins the question here. It is affirmation of a fact supposed, and comparison of present with past state of the mind of Jove. Athene ends in a downright scold—"Though not now your heart," &c., "Did not then?" &c.

*Τροίη ἐν εὐρείῃ*, In broad Troy—not town, but plain, or district.

*χαρίζετο*, 3rd sing. imper. *χαρίζομαι*, "rem gratam facio," do a thing agreeable, as the Latins say.

And answering her, the cloud-exciting Zeus replied—

"My child (*τέκνον ἐμὸν*), what word has escaped the barrier of your teeth? How then should I forget Divine Ulysses? who excels in mind *other* mortal men, and performed sacred rites all round to the immortal gods, who possess the broad heaven. But Posidon, the Earth-combining, has been ever grievously enraged on account of the Kyclops (*κατ' ἐξοχὴν* Polyphemus) whom of his eye Ulysses rendered blind; (*ἀλάωσεν* acc. and gen.) the god-like Polyphemus whose was the greatest among the Kyclopes. Thoosa brought him forth, the nymph, daughter of Phorcus, ruler of the fruitful sea, she having been embraced by Posidon in sea's hollow caves. From that time, Posidon the Earth-shaker would not at all slay Ulysses, but causes him to wander away from his fatherland. But come, let us carefully plan his return, (speak about) in (*ὅπως*) what way he may come home. And Posidon shall dismiss his anger. For not at all shall he alone be able to strive in opposition to all the immortal gods, when they're unwilling."

64. *ποιόν* "what quality of;" *σε* enclitic, loses accent.

*ἔρκος ὀδόντων*, lips.

65. *Πῶς ἂν ἔπειτ' . . . λαθοίμην*, How then should; *ἂν* with opt., would, should, &c. The verb is 2nd aor. opt. and 1st sing. of *λανθάνομαι*.

66. *ὃς περὶ μὲν νόον*. The noun is governed by *κατὰ* understood.

*περὶ* . . . *ἔστι*, he excels, both prep. and verb to be joined. The persons surpassed, in the gen.; and that in which, in dative.

This clause following Edginton has very freely translated, *περὶ* . . . with *ἔδωκα*, means the circle of the gods, *περὶ* round, circum, or circa.

*τοί*, those namely, *οἱ*.

68. *γαίηχος*, hemming in, or holding in, the earth. The sea holds earth in.

69. *κύκλωτος*, gen. by *ἐντα*.

*κεχλῶται*, 3rd sing. perf. pass.

70. *ἔσκε* is Ion. for *ἦν*, was.

71. *θάσσα . . . νύμφη* is "newly married."

*νυμφαί* are deities who dwell in woods or mountains, or beside fountains. Thoosa is one of these.

72. *φρέωνος . . . μέδοντος*; *μίδων*, part., ruler, governor.

*ἀτρυγίταιο*, Ion. gen. of *ἀτρυγίτης* ὁ ἡ, barren, not bearing the vine.

73. *μυγεῖσα* is nom. sing. fem. 2nd aor. part. *μυγεῖς-εἶσα-τι*; of *μύγνυμι*, mingle in love, embrace.

74. ἐκ τοῦ, "χρονου," understood.  
 ἐνοσίχθων, Earth-shaker. χθων, earth, land ; and ἐνοσαι=κινῆσαι, shake.  
 πλάζῃ δ' ἀπὸ πατρίδος αἵης, but causes to wander, fut. πλαγῶ ; ἀπὸ  
 is good example, in proof of what said already on ἀπὸ φίλων  
 πῆματα πασχει, "source," "origin," from which his wanderings  
 were ; that was the place whence started ; and from which still  
 going astray (away from), as at the beginning of his wandering ;  
 and place to which *he* would return.  
 πατρίδος αἵης, father-land ; πατρῖς-ἰδος as adjective.
76. ἀλλ' ἄγεθ' for ἄγετε accurately, "but come ;" when one is called by  
 way of exhortation, said to be used as adverb of exhortation.  
 περιφραζώμεθα is 1st per. pl. subjunc. pre., "to consider ;" "we may  
 all, or let us all, consider," with νόστον in acc. by περί, about.
77. ὅπως ἔλθῃσι, "how he may ;" ὅπως, adverb of manner, quomodo,  
 and verb in subj.  
 μεθήσει is 3rd sing. fut. of μεθίημι, dismiss, or lay down, or aside.
- 78, 79. ἀντία, on opposite side ; adverb, He alone shall not be able to  
 strive in hostile opposition to, "in face of," and takes gen.  
 ἐριδανίμεν, inf. act., shortened from ἐριδαινέμεναι, of ἐριδαίνω, strive.  
 οἶος, observe with light breathing, is "alone," sing. of οἶος-η-ον,  
 alone.  
 ἀίκητι, unwillingly ; place adverbially, with the gen. not governing,  
 but only joined to : the gods being unwilling, as the Latins say,  
 invitis Diis. It is from ἐκὼν ὄντος, willing ; and α, not.
80. But then Athene, blue-eyed goddess, answered *him*—  
 "Our Father, son of Kronos, highest of Kings, If this be now in-  
 deed agreeable (φίλον) to the blessed gods, for the prudent Ulysses to  
 return to his home, then let us send the message-carrier, Argos-slayer,  
 Hermes, to the Isle Ogygia, that as soon as possible he may tell the fair-  
 haired nymph our true resolution—the return of the patient Ulysses to  
 wit, as soon as he may return (Edginton, neatly, swiftest speed.) But  
 I shall go to Ithaca, that I may rather urge his son, and put courage in  
 his soul, to call into the market-place the hairy-headed Greeks, and in-  
 terdict all the wooers, who still slay many sheep, and trail footed rolling  
 oxen, and I shall send him both to Sparta and the sandy Pylos, to inquire  
 after the return of his dear father, if anywhere he may hear, and that he  
 may have fair fame among men.
83. μακάρεσσι θεοῖσι ; μακάρι gen. ρος, dat. pl. ; θεοῖσι is Ionic.  
 τοῦτο φίλον is in nom. to ἴσθι. The thing agreeable is νοστήσαι Ὀδυσῆα  
 δαΐφρονα ὄνδε δόμονδε. The proper name is before νοστήσαι in the  
 accusative ; ὄνδε δόμονδε is acc. of direction.
85. ὀτρύνομεν is subj. 1st. pl. not future. Scan the line. ὀτρυνόμεν, future  
 is ὀτρυνόμεν.  
 εὐπλοκάμῳ, adj. 2nd declension only, from εὐ, well ; πλοκάμος, fair-  
 haired, yellow-haired. This was the stamp of Grecian beauty,  
 as "golden hair" is in our own ballads.  
 νημερτιά βουλήν. The adj. is acc. of νημερτής of the 3rd declension  
 only ; νη, negative, and ἀμαρτάνω : βουλήν, design, thing determined  
 on ; acc. by κατά.

- νόστον Ὀδυσῆος is accus., the thing determined is this, his return, namely.
- ὡς κενύηται; ὡς κε, as soon as; neatly by Edginton, swiftest speed. But he neglects the verb *νέηται*; it is 3rd sing. subj. of *νόμαι*, return.
- ἀντάρ, but; as to the rest.
- ἰσιλεύσομαι, fut. of *εἰσερχομαι*. Ἰθάκην, in acc., by the prepos. in compos. εἰς.
- ᾧρα οἱ υἱὸν . . . ἵποτρυνω; ᾧρα is joined to sub. μάλλον is from μάλα, strongly.
- θεῶν is 1st per. sub. 2nd aor. of *τίθημι*, place; 1st takes acc. *μῖνος*, and dat. *οἱ*.
- φρεσὶ, dat. pl. of *φρήν-ενος*, dat. sing. *φρενι*; pl. *φρενσι*, but *ν* does not stand before *σ*.
- καλέσαντα is acc. sing. 1st aor. part., agreeing with *υἱόν*, having called, forbid, = to *call* and to *forbid*. Part. and inf. *ἀπειπέμεν*.
- καρηκομόωντας, acc. pl. of pres. part., in agreement with Ἀχαιοὺς, hairy-headed, not long only, but full.
- ἀπειπέμεν is inf. older form of *ἀπειπεῖν*, and takes dat. The purpose of *καλέσαντα* is to forbid.
93. ἀδινὰ may be taken as adverb, constantly.
- εἰλίποδας, acc. pl. of *εἰλίπους*; *εἰλίπους*, turning the foot.
- ἔλκας, acc. pl. of *ἐλξ* or *ἑλῖξ*, rolling gait, motion from side to side, of oxen.
- βοῦς; βοός is *δ-ή*, from *βόσκειν*, feed, or *βόω*.
94. πευσόμενον, acc. sing. mas. fut. part. of *πυνθάνομαι* or *πύθομαι*, learn, inquire; νόστον in acc. after verb.

Translation, line 96. Thus having said, under her feet she bound her beautiful sandals, ambrosial-golden, which bore her over the liquid sea, or over the boundless earth, with the breath of the wind, and she snatched her strong spear, pointed with sharp brass, heavy, great, massy, by which she subdues the ranks of mortal heroes, with whom the strong-fathered goddess shall be angry; and she went, rushing along the tops (peaks) of Olympus, and stood in the district (division) of Ithaca, near the married home of Ulysses, on the court threshold; and in her hand she held her brazen spear, in likeness of the guest, Mentēs, leader of the Taphians. She found, indeed the haughty suitors; some then, with draughts before the doors, pleased the mind, seated on hides of oxen, which they had killed. And heralds with them, and active attendants, some, forsooth, mixed wine and water in cups (goblets), others again, with the many celled sponge, washed the tables, and place before them, and others divided (shared out) much flesh.

- ὑπὸ ποσσὶν . . . χεῦσεια.
- ὑπὸ properly under. The sandal was not like our shoe, it rested under the sole of the foot, and was bound or strapped round the ankle. The prep. *ὑπὸ* takes three cases, gen. dat. acc., Latin sub, rest under.
- ποσσὶν is epic dat. pl. of *ποῦς*, *ποδός*, *ποδὶ*; hence *ποδσι*, but *δ* does not stand before *σ*.

- ἰδήσαντο, 3rd sing. 1st aor. middle, of δέω-ήσω, I bind, middle bind for self, δέομαι.
- The adjec. are neuter plural.
- ἀμβρόσια is "immortal," "divine;" of α, not : and βροτός, mortal.
- μὴ is acc. and ὁ or ἡ, reflex sometimes.
- τὰ, relative and nom. to φερον.
- ἡμῶν . . . ἡδὲ . . . ἀνέμοιο; ἡμῶν, either; ἡδ', or.
- ἔφ' ὑγρῇν, over liquid way; ὑγρῇν, acc. sing. fem. of ὑγρὸς-α-ον, moist, agreeing with nom. understood κέλευθος, ἡ, way; or it may be a noun, as we say the "blue," meaning "sky," the "open," meaning clear space over the "moist;" ἐπὶ takes gen. dat. acc. with the idea of *motion to*.
- ἁπειρόνα is adjective, boundless; of α and περας, beyond; ἁπειρών, when applied as here, is the round earth.
- ἄμα πνοῆς ἀνέμοιο, along with the breath of the gale. The two nouns are not to be translated as if they were one; ἄμα is adv. governing the gen.; πνοῆς is from πνέω, to breathe; πνοη is unpoetic form.
- ἀνέμος is blast-blowing.
99. εἶλετο, 3rd sing. 2nd aor. of αἰρέω-ησω; 2nd aor. εἶλον in active, to seize; with ἔγχος-τος, noun, neuter, in acc.
- ἁπαχμένον, part. perf. pass. used only in this form: it is from ἀπῆ, point.
- ὀξυῖ χαλκῷ, instrumental dat.; ὀξυῖς-εια-ὺ.
- τῷ, relative, agrees in gender and number, but not in case, with ἔγχος, instrumental dat.
- δάμνησι, 3rd sing. pres. ind. of δάμνημι, same as δαμνάω, and that, same as δαμάω, subdue.
- στίχας ἀνδρῶν ἡρώων, ranks of mortal heroes. The translator makes this very tame, "which she slays men with;" ἀνδρῶν is more than men in any case, brave, "viri," as the Latins say. But with ἡρώων it is only a qualifying word—heroes who can die, "mortal."
- κοτίσσειται, 3rd sing. future, of κοτέω and κοτέομαι ἔσομαι. The σσ is Epic form.
- τοῖσιν is dat. by verb; relative to Ἡρώων.
- δβριμοπάτρη, born of powerful father. Edginton slips the idea. It is missed.
- βῆ, 3rd sing. 2nd aor. of βαίνω.
- βήσομαι, 2nd aor. ἐβῆν, she went. κατὰ, along by.
- ἀτξασα, nom. sing. fem. part. 1st aor. of ἀτσω-ξω, rush.
- κατὰ governs καρῆνων in gen.; and Οὐλύμποιο is governed by καρῆνων.
- Her pathway was along the peaks. Edginton's line is too grand by half, and is not Homer.
100. σῆ, 2nd aor. act. of ἵστημι, used in neuter sense, stood. The perfect too, has same sense, 2nd aor. ἔστην.
- Ἰθάκης ἐνὶ δῆμῳ, is, in the portion, or Demos of Ithaca, district or territory. Edginton slurs it over entirely.
- ἐπὶ προθύροισι Ὀδυσῆος, beside the married home of Odysseus. This seems to be the poet's meaning.



- οὐδὲν ἐπὶ αὐλ.εἰου, by his hall-door; οὐδὲς is the threshold, stone or wood, on which men step at entrance. The noun is δ.
105. εἶδομένη, part. pre. nom. sing. fem. of εἶδομαι and εἶδω, to appear. When it means, as it does here, to resemble, it takes the dat. after it, of person to which like observe the poet speaks of her himself, in the feminine, goddess, known to him.
- εὔρε δε . . . 2nd aor. act. of εὕρισκω, εὕρησσω, 2nd aor. εὔρον, to find.
107. ἔτερον, 3rd pl. imperf. act. of τέρω, τέρω, delight, please. πεσσοῖσι, dat. plu., by which pleased,—instrument.
- ἦμενοι, part. pres. of ἦμαι, ἦσαι, ἦται, 1st, 2nd, and 3rd persons, sing. I am seated.
- ἐνός is ὁ or ἡ, hide.
- οὓς, acc. pl. masc., agreeing with βοῶν in gender and number, governed by ἔκτανον, which is 2 aor. act. of κτείνω, κτενῶ, slay.
110. ἔμισγον, 3rd pl. imp. of μίγνυμι and μίσγω, fut. μίξω, I mingle, mix. οἶνον καὶ ὕδωρ, English, water with wine; Greek, wine and water; may be in equal proportion.
- νίζον for ἐνίζον, imp. 3rd plu. indic., wash.
- πολυτρήτοισι, many holed; from τινεῖν, I perforate. This is a fine adjective for the purpose intended.
- πρότιθεν=προετίθεισαν, 3rd plu. imp. ind., place before.
- τοί = οἱ, nom. plur.
- κρέα πολλά δατεῦντο; κρέα, acc. pl. of κρέας τὸ, flesh; pl. κρέα, κρεῶν, κρέασι.
- δατεῦμαι, I divide. The form in the text is 3rd plu. imperf. Doric and Ionic for ἰδατεῦντο.

And the god-like Telemachus saw her by much the first. For he sat among the suitors, grieved in his dear heart, seeing in his soul his noble father, if, having come back, he should make a dispersion of the wooers who were in the palace, and have honour, and rule his own possessions. Having such things in his mind, seated among the suitors, he looked towards Athene (perceived) and went right to the entrance court; and was displeased in his soul that so long the stranger had stood by the door; and, standing near, he seized her right hand, and received the brazen spear, and her addressing, he spoke these winged words—

“Hail, stranger, among us, thou’lt have a friendly welcome. But having tasted supper, thou’lt tell what your want is.

114. ἦστο, 3rd sing. imp. ind. of ἦμαι, to sit; for ἦτε.
- τετιημένος, in form part. perf. pass., used as adjec., sorrowful; φίλον ἦτος, governed in accus. by κατὰ understood.
- ἰσώμενος, part. pres. middle, I fashion in my mind, picture to myself; of ἰσσομαι.
116. θείη, 3rd sing. 2nd aor. optative of τίθημι, put, place, η has not, subscript.
- τῶν μὲν . . . κατὰ δώματα. Those namely, or especially in palace, “who were.” Them he cared about.
117. ἀνασσοί, 3rd sing. pres. opt. of ἀνάσσω, I command, takes dat. or genitive.

118. τὰ, which things; the whole subject of his thought, from line 115 τὰ, relative.
119. νειμίσσῃθι, 3rd sing. 1st. aor. pass. of νειμίσσάω-ήσω, angry with, enraged.
120. ἰφιστάμεν for ἰφιστάμεναι, perf. inf. pass. of ἰφίστημι, to stand beside, with dative.  
 ἰθὺς, line above takes gen., right to.  
 σπὰς, 2nd aor. part. of ἰσθῃμι, "He stood beside," and seized; not "from," as Translator; but, first took the hand, and then received the spear.  
 ἰδέξατο is 1st aor. indic. 3rd sing. of δέχομαι, δέχομαι, "to receive."  
 πτερόεντα is, "not to be recalled," of πτεροεῖς-εσσα-εν.  
 προσηύδα, 3rd sing. imp. indic. act., of προσαυδάω, I address.
123. χαῖρε, imperat.,—a verb of salutation.  
 παρὰ ἄμμι=ἡμῖν, dat. pl. of pronoun of 1st per.  
 φιλήσεις, 2nd sing. fut. of φιλείομαι, "treat in friendship;" fut. φιλήσομαι, φιλήσεις, then as in text, σ struck out.  
 μυθήσεις, 2nd sing. fut. middle, of μυθίομαι, I narrate.  
 ὅττις is gen. Homeric of ὅστις-ἥτις-ὅστι, and neuter, governed by χεῖ, as verb of want.  
 χεῖ, impersonal, there is need, opus est.

We put down the following words that the critical reader may see for himself how far he has mastered what he has *read*, and to put him *on method*.

1st. Single words. What is the meaning of the following :—

μόρος	κίων	νημερτής	θεράπων
δλέρων	καπνός	νήσος	πολύτρητος
ἄλοχος	ἔρκος	νόστος	δυδός
μνηστή	γαίηχος	εἰλιπούς	and σκίδασις
αἰπύς	ἰνόςχιτων	ἑίλιξ	
βένθος	ἄιη	δήμος	

and give the gender of the same.

2nd. Give the meaning of the following phrases :—

- ὀππότε ἂν ἡβήσῃ.  
 νῦν δ' ἀθρόα πάντ' ἀπέτισεν.  
 εἰκότι καίτοι δλέρω.  
 νήσῃ ἐν ἀμφιρύτῃ.  
 αἶ γαῖαν τε καὶ οὐρανὸν ἀμφὶς ἔχουσιν; and to what does it refer?  
 καπνὸν ἀποθρῶσκοντα; and the case that follows; and word, if you know.  
 ὅς περὶ μὲν νόον ἐστὶ βροτῶν. What is peculiar here?  
 Did you observe δλυμπος in any other spelling?  
 ἡμεῖοι ἐν ἡνοῖσι βοῶν. Give meaning of.  
 αὐτὰρ ἔπειτα δέϊπνον πασσάμενος? Give meaning of. What tells you he does not know the goddess?

3rd. What part of the verb is each of the following :—

ἔφασκόμεν	πρόσιθεν	θείη	ἵεμενος
ἄπειπέμεν	δατεῦντο	ἔκτανον	ἱμείρεται

and meaning of last two words.

λαθοίμεν. What case does this word take ?

Farther we will not go just now. This will help to prepare those who have followed us for the XI. Lib. which we mean to take up ; and the portion we have gone over will show how much is lost by a translation which of necessity leaves out all the epithets of Homer. The description of Athene's descent from Olympus is exceedingly beautiful, and in general well rendered by Edginton. But there are passages in this very faulty. In line 100 "which she slays men with," is very tame. The separation of ἀνδρῶν and Ἡρώων in the translation does not seem to be the poet's design. It is not as they were men, but mortal heroes ; others were beneath her notice. The word ὀβριμοπάτρη is turned into "the child of Jove," but this does not give what the poet has said.

Line 102 is very grand in Edginton, "From heaven's high hill she having gone with speed." There is no high *hill* in Homer, "she went along the peaks of Olympus, with speed," if it must be so (ἄιξασα) means rather the peculiar bearing of the goddess, one not to be stopped—rushing. And the next two lines might easily be made more literal ; and by that so much the better, and more elegant.

In line 107 he makes πεσσοί "dice ;" it is rather "game of draughts," in which a round or square piece was pushed along till one player was not in position to move again—like chess ; Scapula calls it calculus. Thus they sate engaged, when the goddess approached in the likeness of the Taphian chief.

The κρατήρ, Ionic κρητήρ, was not the cup out of which they drank, but the vase or goblet in which the wine and water were mixed before it was presented to the guests. Thus the strength was regulated, before it came to the drinker, though not always in the same proportion. It is a good example for our modern days, when we seem to be advancing in our habits and overstepping all bounds of moderation. While we go to improve our taste to their beautiful mellifluous language, let us learn also some polish of manner from the Grecians.

*Mason's Spelling.* By JOHN MASON. Price 1s. Longman and Co. THE author in his preface states that this book is mostly a compilation, only a portion being original. When we say that the only difference between this and other spelling books is in the arrangement, and that subjects quite irrelevant to a first book, such as grammar, geography, scripture, &c., are studiously avoided, our readers will fully comprehend the aim and scope of the work.

*The Oxford and Cambridge Local Examination Record.* By F. S. DE CARTERET-BISSON. Price 1s. University Tutorial Association, 70, Berners Street, Oxford Street, W.

BESIDES the lists, shewing the number of successful candidates from each school, the compiler has inserted the regulations of the Syndicate ap-

pointed by each University to provide for these examinations. We have also the syllabus for both junior and senior candidates. Thus in one book we find the whole of the information required, to prepare students, and the results of the several examinations which have hitherto been held. It is a laborious work to collect and arrange such tables as we have here presented to us, and great praise is due to Mr. Bisson for the able manner in which he has finished his work.

*A Handy Book of Meteorology.* By ALEXANDER BUCHAN, M.A., Secretary of the Meteorological Society of Scotland. Blackwood & Sons, London and Edinburgh.

THIS little work is, as the author calls it, a handy book, and one likely to be of great service to those who wish to know something of the general principles of meteorology without having to wade through some large treatise; and yet it contains most of the details wanted by beginners, and explained in a manner perfectly easy of comprehension by anyone.

## EDUCATIONAL RECORD.

**N**ATIONAL EDUCATION IN IRELAND.—The report for the past year on national education in Ireland states that at the close of 1868 the Board had 6,586 schools in operation, an increase of 66 as compared with the preceding year; and the total number of children whose names appeared on the school rolls within the year was 967,563, an increase of 54,365. This number, however, includes many children who never actually attended on any day in the year; the number actually attending in 1868 was 918,344. The average daily attendance was 354,853, an increase of 33,170—116,100 in Ulster, 108,134 in Munster, 78,480 in Leinster, 52,139 in Connaught. The estimated population in Ireland in the middle of the year was 5,543,285. Of 967,444, nearly the whole number of pupils on the rolls of the national schools in 1868, 80·93 per cent. were Roman Catholics, 11·10 per cent. Presbyterians, 7·27 per cent. belonging to the Established Church, 0·70 per cent. belonging to other denominations. In unmixed schools under Roman Catholic teachers there were 384,672 Roman Catholic pupils on the rolls; and in schools under Protestant teachers there were 24,182 children on the rolls, of whom 5,700 were Roman Catholics. In mixed schools there were on the rolls 119,817 Protestant pupils mixed with 30,895 Roman Catholics in schools taught exclusively by Protestant teachers; 354,764 Roman Catholics mixed with 26,046 Protestants in schools taught exclusively by Roman Catholic teachers; and 14,415 Protestants mixing with 12,327 Roman Catholics in schools taught conjointly by Protestant and Roman Catholic teachers. Returns showing the literary proficiency of 729,462 of the pupils on the rolls for the last quarter of the year 1868 give 43·6 per cent. in the first book, 33·1 per cent. in the second book, 16·5 per cent. in the third book, 6·8 per cent. in the fourth and higher books. The Board had in their service at the end of the year 1868 6,171 principal teachers, 2,079 assistant teachers, and 370 junior literary and industrial assistants, making in the whole 8,620, of whom 3,457 are trained. Of the salaries and emoluments of the teaching staff the large proportion of 83·3 per cent. came from funds provided by the State; the local emoluments (children's pence, subscriptions, &c.) received in aid of teachers' salaries in 1868 averaged only 3s. 4d. per pupil. There were 124 school farms in 1868.

MR. J. R. SEELEY, Fellow of Christ's College, Cambridge, and Professor of Latin at University College, London, has been appointed to the professorship of Modern History at Cambridge, rendered vacant by the resignation of Canon Kingsley. Mr. Seeley was Senior Chancellor's Medallist in 1857, and bracketed with three others at the head of the first class in the Classical Tripos. He is the author of "Ecce Homo."

MR. REED, M.P., ON EDUCATION.—This gentleman speaking at Coggeshall, said he did not believe in secular education. There was no such thing. Education taught the heart, and the heart and conscience were not taught by reading and writing. Education to be worthy of the name must be based on religious truth, contained in God's Holy Word, which must be kept at all cost in our daily schools.

SIR J. PAKINGTON, speaking of Mr. Förster, and his relation with education, says :—"I have had considerable consultation with him on this subject, and I am bound to express my candid belief that this great question of national education is in perfectly satisfactory hands ; and I am sanguine enough to believe that when Mr. Förster's measure is brought before the public it will be one which I shall be glad to approve, and one that no party distinction shall prevent me giving my most cordial support."

KING'S COLLEGE.—An important scheme for the extension of technical education came into operation with the current session of the evening class department of this College. It has been drawn up by the Principal (the Rev. Dr. Barry, the dean of the department (Professor Leone Levi), and the Board of professors and lecturers, and is intended to prepare students, as far as possible, for the professions and trades respectively of the law, the Civil Service, mercantile, chymical manufacture, engineering and mining, and architecture. Special diplomas will be granted to such students as shall pass satisfactorily through each course, and every effort will be made to obtain recognition of the diplomas by the heads of offices and the great employers of labour in each department. To obtain an entrance into the technical classes the student will be required either to pursue a course of general education for a year, comprising English, arithmetic, or elementary mechanics, Latin, or one modern language, and pass a satisfactory examination therein ; or to pass a similar examination in any three of the subjects on entering the evening class department. When the student has fulfilled this condition, he will be at liberty to enter upon a course of technical instruction. If he is intended for the legal profession, it is suggested that he should attend the classes for public reading and speaking, law, commercial and international law, and political economy ; if for the Civil Service, English, French, German (or any other modern language), mathematics, logic, international law, and political economy ; if for the mercantile profession, as banker, merchant, shipowner, shipbroker, insurance agent, accountant, or actuary, English, French, and German, or any two modern languages, mathematics, geography, commerce and commercial law, and political economy ; or, if he wish to obtain a knowledge of the sciences connected with practical art, or to become a chymical manufacturer, metallurgist or miner, engineer or architect, mathematics, mechanics, drawing, physics, elementary chymistry, mineralogy, and geology. The courses should occupy two years, and it is intended to allow students who may show on examination sufficient knowledge of any subject to omit it and substitute another. During the course, or at the end of each scholastic year (from October to June), examinations will be held, and such students only as have obtained certificates of merit in the subjects fixed for each year of the technical course will be allowed to pass on to the next year's studies. At the close of the final examination special diplomas of honour or of merit will be given. In each department of study

a special money prize will be given to the student who most highly distinguishes himself in the examination requisite for obtaining the diploma. The course opened on Friday, October 8, on which evening the Principal delivered an opening lecture "On the relations of general and technical education;" and there was a special service in the College Chapel on the following Sunday evening, at which the Rev. E. H. Plumtre, M.A., Professor of Divinity, preached. The classes will be closed from December 22 until January 27. In the evening department there are 32 classes in all, including, among others, Divinity, Latin, Greek, Hebrew, English, modern languages, geography, arithmetic, writing, mathematics, commercial and international law (Professor Leone Levi); drawing, chymistry, mechanics, physiology, botany, physics, mineralogy, and geology, zoology, logic, political economy (Professor Thorold-Rogers); public reading, and law.

**PUBLIC INSTRUCTION IN TURKEY.**—A law recently issued by the Sultan, says :—The public schools of the Empire are to be of five classes—primary, superior primary, preparatory, lyceums, and special schools. Each quarter in a city, and each village must maintain a primary school, or if the population be mixed, a school for Mahomedans, and another for Non-Mussulmans. Children are to receive instruction in the religious book of their persuasion, attendance being compulsory during four years, from the age of six to ten for girls, and eleven for boys, except under certain circumstances which are specified. A superior primary school, or two if necessitated by religious differences, is to be instituted at the charge of the vilayet, in every town of 500 houses.

A good sound education of languages and science is to be taught in these and the higher schools, under the supervision of a Council of Education, to be established at Constantinople.

**GLASGOW AND ST. ANDREW'S UNIVERSITIES.**—Dr. Neil Arnott has bestowed the munificent donation of £1,000 on each of the above universities, for the endowment of scholarships in connection with experimental physics or natural philosophy. Dr. Arnott had previously given a similar donation to the Universities of Aberdeen and Edinburgh. He also lately placed at the disposal of the Senate of the University of London the sum of £2,000 to found a scientific scholarship in that University. Mrs. Arnott some time ago gave £2,000 for scholarships in natural philosophy to two ladies' colleges in London.

**PRESENTATION.**—Mr. Bolckow, M.P. for Middlesborough, has presented to that town a valuable block of buildings, erected at a cost of £6,000, to be appropriated as National Schools, accommodating 900 scholars. The buildings were opened on Wednesday the 22nd of September—in the presence of a large assemblage. A year ago Mr. Bolckow presented a public park to the town.

**NATIONAL EDUCATION LEAGUE.**—Seeing that the present means used for the education of the masses were so inadequate to the requirements, a few gentlemen of Birmingham felt that the establishment of some organisation was necessary to examine into and suggest means for remedying the defects. Accordingly at the beginning of the year, the National Education League, was formed upon the following basis, which the founders regarded as fundamental; and upon this basis only, were educational reformers throughout the country invited to join the League.

"**OBJECT.**—The establishment of a system which shall secure the education of every child in England and Wales.

"**MEANS.**—1. Local authorities shall be compelled by law to provide for every child in their district. 2. The cost of founding and maintaining such schools as may be required, shall be provided out of local rates, supplemented by Government grants. 2. All

schools aided by local rates shall be under the management of local authorities, and subject to Government inspection. 4. All schools aided by local rates shall be unsectarian. 5. To all schools aided by local rates admission shall be free. 6. School accommodation being provided, the State or the local authorities shall have power to compel the attendance of children of suitable age not otherwise receiving education.

A public meeting was held at Birmingham on the 12th and 13th of October.

Mr. G. Dixon, M.P., was elected President. He stated that the movement they had met to inaugurate was one of momentous national importance involving not merely the future material prosperity of the nation, but its intellectual, moral, and even religious progress.

Letters were read from many gentlemen unable to attend the meeting, but who agreed with the objects of the League, and promised to give it their support.

The following were the principal resolutions put to the meeting ; in every case appropriate speeches being made. One great feature of the meeting was the unanimity which prevailed, there being scarcely a dissentient voice throughout.

Professor FAWCETT, M.P., proposed the resolution "That the Executive Council be instructed to prepare a bill embodying the principles of this League, and that this bill be introduced in the early part of next Session." The advice of this gentleman was that the bill should be introduced almost the first day of the Session, forced through all its stages; and never abandoned unless the Government was prepared to carry one similar to it.

Mr. G. DIXON, M.P., moved, "That in the opinion of this meeting the scheme of the National Education League is the one best adapted to secure the education of every child in the country." One objection of their opponents was that voluntarism would be killed, but he believed it would be utilised, organised and developed. Sectarian theology was to be excluded from the proposed State Schools ; but yet he believed there would be as much religion in the system as in nine-tenths of the schools which now existed. Some might not understand what is meant by "unsectarian." Now what is meant by this word, is that in all schools it shall be prohibited to teach catechisms, creeds or theological tenets peculiar to particular sects. School managers will have the power to permit or prohibit the Bible ; but if sanctioned it must be read without sectarian note or comment. They would also have the power to grant or to refuse the use of class rooms, out of school hours, for the purpose of religious instruction.

(Our space forbids us to make further remarks or extracts from the papers read, or speeches made at the late meeting of the League, but a paper upon this subject, is in preparation, and will appear in our next issue.)

**EDUCATION IN CONNECTICUT.**—Children under 14, in Connecticut, by a recent law, cannot be employed to labour in any manufacturing establishment, or in any other business, unless each child shall have attended for three months out of the twelve some public or private day-school, under the charge of a teacher qualified to instruct in orthography, reading, writing, English grammar, geography, and arithmetic. Any person employing any child under fourteen, contrary to the provisions of this Act, is liable to a penalty of 100 dollars for the offence. This law is a revival of the provisions of three months' schooling each year, which were required to be inserted in indentures of apprenticeship. It will be observed that the child must be allowed to attend a day-school ; in old times a night-school was considered sufficient.

## WORDS.

*Passages in illustration of certain words. The words arranged alphabetically.*

**Primogeniture** (*the state of being born first of the same parents*). "The fact remains, that to the Emperor of France the Pope owes every vestige of his temporal dominions. This is indeed to be the eldest son of the Church, and to exercise the right of spiritual PRIMOGENITURE."—TIMES.

**Proclivities** (*inclinations, propensities*). "And, although it startled and pained him at first to hear himself called ugly names, which he had hated and despised, and to know that many of his old acquaintance looked upon him as a madman with snobbish PROCLIVITIES."—TOM BROWN AT OXFORD.

**Prophylactic** (*preventive*). "I started in the cars along with some confederate officers, and several bottles of whisky, which at that early hour (5 A.M.) was considered by my unknown companions as a highly efficient PROPHYLACTIC against the morning dews."—MR. RUSSELL.

**Frurience** (*great desire*). "Often and often I groaned in spirit over the temper of my own class, which not only submitted to, but demanded, such one-sided bigotry, FRURIENCE, and ferocity, from those who set up as its guides and teachers."—ALTON LOCKE, C. KINGSLEY.

**Pseudonym** (*a prefix signifying a false name*). "Amongst those gentlemen who spend their time in continual endeavours to solve the problem of living luxuriously upon an annual income of exactly nothing, few were more persevering than the martial adventurer who recently rejoiced in the aristocratic PSEUDONYM of Francis Vernon Harcourt."—DAILY TELEGRAPH, 1863.

**Psychological** (*pertaining to the science of man's spiritual nature*). "When a person is deemed incapable of taking care of and managing his own property, a special jury is summoned under the Great Seal, and some of the most delicate points of PSYCHOLOGICAL science are carefully investigated."—TEMPLE BAR.

**Psychology** (*a discourse or treatise on the human soul*). "Scottish philosophy is nothing in the world but PSYCHOLOGY, nothing but a natural history of the human mind."—MEMOIR OF LORD CAMPBELL.

**Purist** (*one excessively nice in the use of words*). "It was notorious that there was nothing so much suspected and disliked as the shifting policy which distinguished the right hon. gentleman a PURIST in matters of finance; he had relied on windfalls and godsende to fill the treasury."—LORD R. CECIL.

**Ratiocination** (*the act of reasoning*). "The Monroe doctrine will no more be driven out of the hands of American Cavour, than the idea of unity will be expelled from the brain of Germany, it is essentially an *idea fixe* in each case, and mere RATIOCINATION upon the utilitarian model will pass by it, as the idle wind."—EXAMINER.

**Recalcitrate** (*to object to*). "General Scott loudly declares that they must be practised in tactical movements, before they will be fit for the arduous duty of crushing out the revolution. But this long course of professional training is just that which the American naturally RECALCITRATES."—ILLUSTRATED LONDON NEWS.

**Recoil** (*a starting or falling back—to drive back*). "There is nothing more thoroughly established than that a tricky and over-refined policy is sure to RECOIL on the hands of its authors."—TIMES.

**Recoup** (*to make a set-off*). "If shareholders will examine the balance-sheet, they will find that the income used as capital is about 50 per cent. of the original share capital, and the reasons assigned were, that it was necessary to put as much capital in the concern, so that it should ultimately RECOUP the original capital."—G. C. RUSSELL.

**Recuperate** (*to recover a thing*). "With that absorption and that addition to the National Debt, it is wise to have recourse to a remission of taxation of a character that cannot restore and RECUPERATE itself, and which cannot be reimposed in case of need by any future ministry."—T. BARING, April, 1861.

**Recusants** (*those who refuse any terms of communion or society*). "The Hellenic states of old subscribed first ships and men, then money, to raise a force against the Asiatic invaders, and placed it under



the direction of the Athenians, the latter in due time claimed this voluntary subscription as a right, and levied a distress on the **RECUSANTS**, putting them to death, and appropriating their property, their wives, and their children."—TIMES.

**Redolent** (*having or diffusing sweet scent*). "It is **REDOLENT** of ambrosia, nectar, and all the tipples of the gods."—TEMPLE BAR.

**Reflex** (*reflected*). "Foreigners laugh at us for the pertinacity with which we adhere to old favourites; but the truth is we are grateful for past enjoyments, and cannot forget them even when the present affords but a pale **REFLEX** of what we have experienced."—TIMES.

**Rehabilitated** (*restored to a former rank*). "Those who watched the affairs of Italy from a distance, know how impossible it was that the royal power, once overthrown in the two Sicilies, could ever be **REHABILITATED** by the successors of Gaeta."—TIMES.

**Rehabilitate** (*to reinstate*). "Whether Mr. Froude will be equally successful in his attempt to **REHABILITATE** Henry VIII., is a question which time must decide."—TIMES.

**Relegate** (*to banish*). If there were any doubt of the fact that we must view war as a thing which is very far from being **RELEGATED** into that region of universal peace and good will, it is only necessary to refer to the military expenditure in this country, and in tolerably large proportions in every other."—ILLUSTRATED LONDON NEWS.

**Relegated** (*sent into exile*). "Englishmen have made up their minds that the Alabama question is as good as settled, and they will sacrifice a good deal to escape being **RELEGATED** to their old state of uncertainty upon a subject they are heartily sick of."—PALL MALL GAZETTE.

**Rendition** (*surrendering*). "The public monies in the South, at the time of the secession of the different states, not amounting to over £60,000, were transmitted to Washington, the Southern States, to my certain knowledge, never having denied their liability for the **RENDITION** of the public money in the way indicated."—A FRIEND OF THE SOUTH.

**Resuscitation** (*the state of being revived*). "It is much worse than re-

newed untold griefs; it is a general **RESUSCITATION** of griefs, a thousand times recounted, and, as most people had hoped, dismissed for ever."—TIMES.

**Reticulated** (*formed like a net*). "I went round the island in my barge, we proceeded by the northern side to the westward. About half a mile from the town are the remains of Tiberius' Baths; the ruins are an immense mass of **RETICULATED** brick work."—DIARY OF THE DUKE OF BUCKINGHAM.

**Rotate** (*to revolve, or move round a centre*). "Mr. Roebuck has much to be thankful for, he can still make a speech which everybody would be glad to hear or read; he has some achievements to boast of, and has never had to **ROTATE** on his political axis with indecent rapidity."—TIMES.

**Salamis** (*a Greek island, famous as near the site of naval victory over the Persians*). "For many a mile inland came down women and children and aged folk in waggons, to join their feeble shouts and prayers, which are not feeble, to that great cry of mingled faith and fear, which ascends to the throne of God from the spectators of Britain's **SALAMIS**."—C. KINGSLEY.

**Salient** (*springing, darting*). "Too much of hasty and captious objection on the one hand, or of a settled and inveterate prejudice on the other, in the eagerness to single out particular **SALIENT** points for attack, as if the entire credit of the case was staked upon it."—ESSAYS AND REVIEWS.

**Saturation** (*a filling, or supply to fullness*). "We may believe that a country which has been absorbing, even to **SATURATION**, all the silver of the west, cannot have been beggared by the abstraction of a sum which does not amount to one year's import of bullion."—TIMES.

**Scintillate** (*to emit sparks*). "Graham looked up, and started at the appearance of Seth—his eyes fairly **SCINTILLATED**."—E. J. ELLIS.

**Sciolism** (*superficial knowledge*). "Above all, it is necessary that our Government should be administered in accordance with the spirit of the age, not by dogged obstructiveness, or wrong-headed **SCIOISM**, but by ripe experience and thorough practical liberality."—TIMES.



# THE QUARTERLY JOURNAL OF EDUCATION.

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## NATIONAL EDUCATION.

**E**VERY one seems agreed that it is an imperative duty of Parliament during the coming session to take such steps as may be found necessary, to extend and improve the existing system of primary education in this country. Public opinion has decided that it is high time this great question of education should be settled, but the manner and terms of settlement are not so decided. At the present moment two schemes are before the nation, both containing great and important principles, both aiming at the same end in different ways, both being supported by men of eminence and wealth, and both assuming that the rival scheme is an impossibility to carry into effect. Before commenting upon either of these schemes, there is one proposition we wish to state, which, if granted, will very materially assist us in coming to some definite conclusion. Is it granted that the better educated a man is, the better citizen he becomes?—We shall suppose—and we see nothing to the contrary—that this question is answered in the affirmative. Then, as a natural sequence to this fact, it must be allowed that if education conduces to order, and good citizenship, it is the duty of the State to see that every man receives at least the minimum amount of education he requires. Whether we like to call this supervision by another name or not, it amounts to the same thing in the end, viz., compulsion.

The following table gives the programme of the National Education League,\* and the National Education Union, so that the aims of both may be seen at a glance:—

### LEAGUE.

*Object.*—The establishment of a system which shall secure the education of every child in England and Wales.

*Means, &c.*—The cost of found-

### UNION.

*Object.*—A complete system of national education, to harmonize with the existing framework.

*Means, &c.*—Voluntary contri-

\* Since the above was written we have received a sketch of the Bill prepared by the Executive Committee of the League, an epitome of which will be found in our columns elsewhere.

ing and maintaining schools, to be provided out of the local rates, supplemented by Government grants.

*Kind of School.*—Unsectarian ; defined by G. Dixon, M.P., as follows :—“No catechisms, creeds, or tenets peculiar to any particular sect, shall be taught in any National School. The school committee shall have the power to allow the use of the Bible without note or comment, and to grant the use of the class-rooms for religious instruction out of school hours, on condition that one sect is not favoured more than another.”

butions, aided by increased grants from Government. Vagrant children to be sent to industrial schools, maintained out of the borough rate. Special grants for technical or scientific instruction.

*Kind of School.*—Denominational. In which is carried out :—“The inculcation of religious and moral truth ; whilst care be taken that denominational teaching be not imposed upon children without the assent of the parents.”

Obviously, the wish of each combination is to educate the masses, but the Union desires to supplement the secular with a religious denominational education. This seems, however, to be an impossibility, and the question arises—is it desirable? What are the benefits which would result from such a system? Are churchmen afraid that dissenters will multiply? because if the mere fact of teaching a catechism is of so great importance in sustaining the fabric, and the non-teaching of it so injurious, then all we can say is, that the building reared upon so slight a foundation must eventually topple over, and the sooner the better. No man who calmly considers the matter, however, can confidently affirm that religious teaching imperatively demands a denominational system ; it is not true in any denomination, least of all in the Church. Denominational teaching is apt to degenerate into doctrinal, and this tends towards leaving the recipient a deeper impression of religious rivalry than of religious duty. Dr. Temple says :—

“It is not really possible in a Protestant Church to form the opinion of children, whether by *catechisms* or by anything else. Nor would a child who had learnt the *Catechism* be more likely on that account to remain a member of the Church in after life if circumstances pulled him another way. Regular attendance at church has a very considerable effect in making children grow up Churchmen ; for the beauty of our services gains by familiarity, and those who have been accustomed to another worship find it long before they can feel at home in ours. But attendance at Church is now connected with the Sunday-school, and little with the day-school. . . . Those who argue that teaching must be denominational in order to be religious, seem to forget that the school is not the world. The teacher of the *Catechism*, it is supposed, cannot teach it if there be in the same school at a different hour, or at the other end of the room, children to whom it may not be taught.

He requires, in order to make his teaching successful, to surround himself and his class with a fictitious belief that there are none except the very wicked who do not agree with all that he is saying. But if he could create this fiction, it would be destroyed the moment the children got home. There each will find father and mother treating the Dissenter next door as a Christian, though the said Dissenter strongly objects to the *Catechism*, and does not hesitate to state his objection. In fact, the purely denominational system of teaching is possible in a monastery, or in a sect where teachers and parents believe in the infallibility of their formularies, but not in a Church founded on the right, and acknowledging the duty, of private judgment.\* Although in large towns a good secular education might be imparted in denominational schools, where each sect would have a school of its own, it would be utterly impossible to do so in a village in which there were but sufficient children to support *one* school. In the latter case there would be a continual wrangling and squabbling over what was to be taught even were there ever so strict a "conscience clause."

In the next place, we glance at taxation versus voluntarism. A late blue book contains the following statements:—

"Bampton Aston, Oxon, contains 3,760 acres, of which the rateable value is £5,000. There are three non-resident landlords, who hold about four-fifths of the land. One of these during eleven years has given in all £5 to the national schools. The other two have given nothing. St. John's College, Oxford, owns land rated at £991 per year, and has given nothing for eleven years.

"In the parish of Steventon, Berks, of which the Dean and Chapter of Westminster are lords of the manor, a new school was built in 1864, which cost £1,066. Towards this sum the Dean and Chapter gave £100, residents in the parish, £120, and the vicar, £433, or twice as much as the absent landowners and all the residents of the parish put together."

These are by no means solitary instances, and they show that under the present arrangements the burden as a rule falls upon those who are least able to bear it. By local, or national taxation, all would contribute their due share towards the education of the country. No doubt exists but that voluntarism has done a great deal, but are there not limits to it? Can it by any possible means adequately provide for the increased and ever increasing requirements of the country? It may seem startling, but without fear of contradiction, we state, that 50 per cent. of our population are receiving either no education, or so little as to be of no service to them. But lastly, as regards these two schemes. Have not clergymen, philanthropists, and others, tried their utmost; exhausted every possible means, to induce the more punctual, the more regular, and the more general attendance, at our schools, than is now the case; and with what result?—41 per cent. of the school benches remain†—notwithstanding all their efforts—empty. It is clearly impossible to impart education to a boy who never attends school, and the inference

\* "Oxford Essays," 1856.

† Professor Jack on Compulsory Attendance.

is plain, that steps must be taken to insure such attendance, and not attendance solely, but *regularity*. The latter, though of so much importance, is frequently overlooked, and it will be found upon examination, that parents are very lax upon this point. Carelessness and ignorance in a great measure conduce to make the attendance irregular. Plainly, then, compulsion of some kind must be used, and as the inducements hitherto offered have proved utter failures, nothing remains but that some new means be invented or an appeal made to law. Another argument against the adoption of a new system, is that we should have to call in an immense number of new teachers.

This constitutes one of the greatest faults of the present system ; there is not, and there never can be, under existing circumstances sufficient teaching power. It is therefore beyond dispute, that, adequately to supply the wants, a great number of new masters must be found. Under a different arrangement, much of the present power might be made more beneficial than it is now, and a smaller number of untried, untrained masters and mistresses would be required, than in any other case. Half of the effective teaching power is lost by defective method, and excessive sub-division. If under local or national government it would be possible to amalgamate the existing schools in our towns into *one* or *two* large schools ; or if the immediate money requirements to effect this were wanting, a plan similar to that described below were followed, great saving would be the result. Take, for instance, a town containing ten schools, of 120 boys each. Now each of these schools would contain, say, a first class, consisting of about twelve boys, of similar attainments. Were the whole of these 120 boys, under the new arrangement, sent to *one* school, a great gain in teaching power would be the immediate result. And supposing a similar number of 120 boys, forming the present second classes, were sent to another school, and so on for all the classes, a much better education could be imparted in a given time, with less labour and less teaching power than in any other way. Of course, were all the boys attending *one* school, this plan must of necessity be carried out ; in fact, it is now in operation in such schools. We do not, in this paper, enter into the question of "How the future schools shall be supported?" but must leave that for the future. We shall very soon hear the course Government intends to pursue on this question, and our views may be stated when criticising its acts.

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LANGUAGE.—Mr. Max Muller tells us that, contrary to general imagination, all words are not derived primarily from letters, but from roots. This must of necessity be the case. Letters are simply an invention, the result of language. They result from the want originally felt to preserve our ideas, and to give them to others. A vocal language is of immense service, but a written language is of inestimable service. An immense number of persons may be made acquainted with our ideas orally, but what is this number when compared with those who are made acquainted by means of written language. To return, language resolves itself primarily into roots. The Bible, which is after all the only source from which we can gain a knowledge of primitive language, says, that "Adam" named all the animals brought before him by God. These animals we are told retained the names then given to them. In all probability Adam gave each a name, showing some distinction from others. It is then from these original words (roots) that every language comes.

## THE TEACHING OF CHEMISTRY IN SCHOOLS.

**N**ATURAL Science seems likely to take a much more important place in education than has hitherto been allowed to it. Some of its branches, many or few, more or less completely studied, will become necessary portions of various systems of instruction in different classes of schools. At least there will be an increasing demand for instruction of this kind, and some attempt must be made by teachers to satisfy this demand. The beauty and usefulness of the sciences of observation and experiment, their completeness and certainty within their own limits, their large, extensive, and marvellous results of late years, their wide and varied application to the purposes of life, their attraction for some minds which are rather repelled from the studies of thought and of language—all these causes have tended to bring the physical sciences into favour as essential parts of a reformed system of education. To some less or greater extent they must be added to the arithmetic, geography and grammar of schools of a lower grade, and either be added to, or partially supersede the classics and mathematics of those of higher professions.

No opinion need here be given as to the value of these sciences, considered as means or subjects of education, in comparison with other, and till now more familiar studies. It is sufficient that the sciences ought to be taught, and will be taught. They may not be so universally accepted, or taught with so much success as their enthusiastic advocates may perhaps expect. They may not be adapted to answer all purposes of mental training and discipline. They may not prove even interesting to all who will be set to learn them. Education founded upon them may fail as other education has failed. As boys now spend year after year in learning Latin, and yet never know any Latin, or if they know any, forget it as soon as they leave school, so they may perhaps a few years hence be learning botany or geology for one term after another, and never know enough to do them any good. But both classics and natural science will be taught, and the addition of the latter to any course of education can scarcely be anything but a gain.

Of all the branches of natural science, there is none perhaps more popular, more generally interesting, than chemistry, and none the teaching of which is more likely to be required from teachers. But on the other hand there are difficulties, or supposed difficulties, in the way of its general introduction. In great schools, where there is no lack of space, and where a room can be set apart as a laboratory, where no expense need be spared in providing apparatus and materials, where thoroughly competent teachers can be procured and paid, there is, of course, no more difficulty in introducing chemistry than in making any other subject a part of the school course. But in smaller and poorer schools, the want of room—there being perhaps but one school-room for all purposes—the expense of apparatus and other similar considerations, may perhaps cause it to seem difficult to bring in a kind of lesson so

different from the usual and inevitable routine of school work. I shall endeavour to show in this paper that the difficulty is not insuperable, and that with certain precautions, and within certain limits, a very thorough course of chemical instruction may be carried through with very little expense or inconvenience.

Very little, probably, could be done in the teaching of chemistry without some opportunity of illustrating by actual experiment. Without this the science could scarcely be easy or attractive to any one, and to most people it could be nothing but a wilderness of hard names and unintelligible formulæ. But many boys, after once attending a course of public lectures, the opportunity for which could in many cases easily be found, could afterwards go through a long course of private study or class instruction with some real appreciation of what they were doing. Having once seen the ordinary experiments with the gases, for example, having seen the iron wire burning in oxygen, and the candle extinguished by carbonic anhydride; having observed the flame of hydrogen and the colour of iodine, they would no longer find in chemical terms nothing but hard words; they would, in fact, be able to read up, with pleasure and profit, all, or nearly all, that is required for such an examination as that for MATRICULATION AT LONDON UNIVERSITY. The experiments by themselves might be merely amusing, the lessons without the experiments would be scarcely intelligible, but the two things would supply each other's deficiencies, and with both of them together, very fair progress might be made in the chemistry of the non-metallic elements.

If there were no opportunity for seeing a few public entertainments such as those just mentioned, something of the sort might perhaps be done privately by the teacher for his class. An occasional lecture, given, say, in the last hour of the morning preceding a half-holiday, so as to get the school-room well ventilated before it was used again, could not be very difficult to arrange. And then the hard work of the chemical course—the grinding up of the subject from text-books, and so on—could be brought in, as might be convenient, among the other lessons, not needing to be separated from them. Nor need the few experiments required for this purpose involve any great expense, though they would require some little skill in manipulation on the part of the teacher.

But this is not all. What I chiefly wish to insist upon is, that a whole course, not merely of theoretical but of practical chemistry, with continual illustration and experiment, not by the teacher but by the pupils themselves, could be carried on, with proper precautions, at almost any time and in almost any place. What may roughly be described as the chemistry of the metals, including the elements of qualitative analysis, could be studied by any man at his own fireside, taught by a father to his children in the family sitting-room, or by a teacher to his class in any ordinary school-room. Scarcely any apparatus would be required, and very few materials. A very few shillings for each pupil would certainly cover all the expense of a long and systematic course of instruction and experiment. Many people, accustomed to

regard experimental science as difficult and expensive, would probably be surprised to find how few and how easily procurable are all the requisites, not for mere recreation, but for a thorough study of the more elementary parts of the subject in question. In fact it is just the real work of the science, the actual study, which, within certain limits, is the least difficult and the least expensive. The show-experiments, the brilliant phenomena, the combustions and explosions, do, if performed on a large scale, and with a view to the utmost effectiveness, require somewhat greater skill and more elaborate apparatus. The experiments necessary for the study of the metals, and the beginning of qualitative analysis, require scarcely any apparatus, and only neatness and carefulness, but no special skill, in manipulation.

A few hints are here offered as to the manner in which such a course of chemistry as this may be carried out. But it must clearly be understood that these observations are intended only for cases where the greatest economy is to be observed, and where no special facilities are to be obtained. With more perfect appliances, and the more regular teaching which will naturally accompany them, most of these remarks will become unnecessary and inapplicable.

The teacher must of course have some knowledge of, and some taste for the subject, and also some little practice in handling the materials used. Chemistry is not to be trifled with; and even on the very limited scale, and with the comparatively harmless substances which would generally be admissible under our supposed circumstances, rashness and inexperience, or awkwardness and carelessness, might lead to unexpected consequences.

The pupils should be accustomed to work with the smallest possible quantities of the substances they would have to examine—at least while practising analysis. The phenomena to be noticed can be seen as well with a small as with a large quantity; and by using a small quantity only, much inconvenience will be avoided. Small quantities would suit the small apparatus they would have to use, and if any unwholesome or offensive substances had to be examined, or to be used as tests, the annoyance would be made the least possible by working on the smallest possible scale. The advantages of neatness, cleanliness, and accuracy, and general convenience of working, would also, probably, be most effectually secured by observing this precaution.

The apparatus should be procured article by article, just what is wanted, and no more. And the same rule should be applied to procuring the necessary tests and reagents. Chemical "chests," or "cabinets," however useful in their way, are *not* the things which are required for the present purpose. They would be too expensive, and would contain probably many articles which were not wanted; while they would nearly certainly be deficient in some of the things which would be most necessary. A complete list of requisites cannot here be given, as this is not intended for a treatise on analysis or manipulation. But each pupil would want about half-a-dozen test tubes, two or three watch-glasses or small porcelain capsules, a blow-pipe, and a few inches of platinum wire, and a few pieces of charcoal. He would require



also a gas-jet, or in default of this a small spirit-lamp. A few bottles containing the common acids, and a few reagents in constant use, would also be required; but it would not be necessary that each pupil should have a set of these to himself. In a laboratory he might, but under the circumstances we are supposing one set of tests might serve for several pupils.

Before proceeding to a course of actual analysis, some time might be given to preliminary work of a kind which could not fail to be highly interesting to any pupil capable of taking an interest in chemistry at all. The more common metals might be taken successively, and their properties and reactions studied with the aid of the text book, and at the same time practically exemplified. Iron, for instance, might be dissolved in diluted sulphuric acid, and the reaction noted and explained. Some of the solution might be evaporated, and the solid salt obtained in crystals. Other portions of the solution might be precipitated by different reagents, the action of each being carefully observed and explained. Portions of the salt or of the precipitate might be examined by the blow-pipe. Further, a portion of the solution might be oxidised from a "ferrous" to a "ferric" salt, and the same series of experiments repeated with the new solution. A similar course of observations might be gone through—*mutatis mutandis*—with about twenty of the more common metals—sometimes, of course, beginning not with the metal itself, but with some common compound of it: as, for instance, the study of sodium might start from common salt and from the carbonate, and that of aluminium from alum. In the course of these experiments all products likely to be useful afterwards as reagents, might be set aside, and preserved; and thus it would be unnecessary to purchase separately such tests as chloride of barium and nitrate of silver, as they would have been formed in the preliminary experiments, and set aside for future use.

Then, when the pupils were already familiar with chemical actions, and with the terms used to designate them, and were beginning to feel at home in their subject, and becoming accustomed to the use of the simple apparatus they would require; and when, moreover, they had become acquainted with the appearance and properties of a good many chemical substances, then the more regular course of qualitative analysis might be begun. This, also, would, of course, be graduated, so as to make it as simple and easy as possible to the beginner. There is a little book on the elements of analysis, by Professor Beilstein ("*Auleitung Zur Qualitativen Chemischen Analyse*." Leipzig, Quandt and Händel, 1867), which would be a good guide to a teacher beginning a course of experiments of this kind with his class. Whether there is any book in English equally short, compact, convenient, and inexpensive, I do not know. The second part of the book—of which the two parts together contain only about fifty pages—is a "systematic course" of qualitative analysis. But the first part consists of a series of examples—thirty-eight in all—of the manner of examining various common substances so as to determine their chemical constitution. Among the substances chosen for this purpose are common salt, saltpetre, sal-

ammoniac, etc., and also some of the metals, as such. And as the same bases are common to several of the salts, and again as the same acid or chlorous radicals occur in several different combinations, the pupil who should go through this, or a similar course, would become familiar with, and able to recognise the reactions which distinguish such bases or radicals, as he would meet with them over and over again : now finding the same base combined with a different acid, now the same acid with a different base.

It is evident that the list of substances to be examined, might be indefinitely extended. But perhaps the preparatory course of study and experiment which has been already suggested, might, to a certain extent, be adopted as a substitute for a series of examples like this. Details of this sort would be varied according to the circumstances of each class, and the necessity or opportunity for more or less elaborate practice.

After such preparation of this kind as should seem necessary or convenient, and when the pupils were already familiar with a large number of chemical substances, and began already to understand their actions and their relations to one another, the systematic course of analysis proper, might be begun. This, in a very concise form, occupies the second part of Professor Beilstein's book. The pupils would learn first, by the application of a regular series of tests, to distinguish the basic element in a compound, and then, by similar rules, to ascertain the chlorous or acid constituent. By working in this way on a regular plan, any number of bases contained in the same solution may be successively separated, and their presence further demonstrated by subsidiary modes of testing. And in Professor Beilstein's book, it is supposed from the first that the substance to be examined may contain, in mixture or combination, the whole series of the more common metals, or any number of them, more or fewer, without the rest. But in practice it would probably be found convenient to exercise the pupils, first in the analysis of substances containing only *one* base ; and afterwards to increase the number if time and the limits of the course permitted. Perhaps it would, generally, be sufficient to carry on the lessons as far as the discovery of *two* bases and *two* acids, or even of two bases and a single acid, contained either in a single salt or in a mixture of salts.

I shall not, of course, here attempt to give any scheme of analysis, but merely refer for such information to any good text-book on practical chemistry. The little book I have mentioned, seems very convenient and suggestive, and is certainly a very short, concise, and cheap manual, suited, perhaps, for the teacher, rather than for the learner—the beginner, at least.

I have stated that a course of chemistry of this kind could be carried on at almost any time, and under almost any circumstances, with little trouble, expense, or annoyance. This statement, perhaps, requires some modification. One of the tests most useful and most frequently used in simple qualitative analysis, is hydrosulphuric acid, and unfortunately this is also one of the most fetid and offensive of chemical substances, and some care would be requisite in order to keep the annoyance within reasonable bounds. Something, perhaps, might be done in

this and other less important instances of the use of strong-smelling and unwholesome substances, by working with very small quantities of everything, and especially by keeping the test bottles well stoppered, and opening them only at the moment when it should be necessary to apply the test. With these precautions, and good ventilation, it might be possible to avoid any serious inconvenience. But, in fact, useful as the reagent above mentioned is, and important as is its place in a scheme of systematic analysis, a great deal might really be done in the way of testing with but very slight use of it. And it might perhaps be worth while for some really good chemist to draw up, for the sake of persons studying chemistry under difficulties, a modified scheme of work, in which the use of this and other noxious substances should be reduced to a minimum. I would not venture to say exactly how far this could be done consistently with thoroughness and accuracy in the work; and without this thoroughness and accuracy the value of a course of practical chemistry would be greatly diminished. But I believe a great deal could be done in this way. There are so many other tests acting so variously on metallic solutions, that scarcely any one, even the most important, could be actually indispensable. Having made this suggestion, I leave the subject for the present, perhaps to return to it at some future time. And I may mention in conclusion, that even this difficulty would only apply in a much less degree to the preliminary course of study which I have recommended: where the object is not the analysis of unknown substances, but the study of known substances; the compounds, for instance, of a given metal. In these experiments, any operation involving annoyance or inconvenience, might simply be omitted; and the attention directed to the vast mass of facts which could be illustrated with perfect ease and comfort. In this way these advantages, at any rate, might be secured. The descriptions given in books would become intelligible, and impress themselves on the memory; the student would be dealing—and feel that he was dealing—with things, and not merely with words. And by the knowledge thus gained, and the familiarity with chemical operations and phenomena, preparation would be made for entering upon more exact and profound studies when the opportunity for them should be given.

J. C. V.

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## STUDY IN ITS RELATION TO HEALTH.

**T**HE acquisition of knowledge having been from time immemorial the desire of mankind, the question very naturally arises, how this universal wish may be gratified without injury to the constitution, therefore we propose to point out as briefly as possible how knowledge may be acquired, and health promoted in the search.

Our readers are no doubt aware that good health is essential to all, and more particularly to the studiously inclined, so that any departure from it must necessarily have an undue influence on the mind and its

cultivation. It is an accepted fact in physiology, that anything which interferes with the balance of mind and matter, will cause serious inroads on the constitution. What is called brain-work is certainly the most laborious of all work, and yet, as it is well known, men of great knowledge have lived to an advanced age: such as Lord Brougham, Lord Lyndhurst, and others. How is this to be accounted for? Simply by accepting the fact, that these intellectual men have, by the observance of certain rules, not alone improved their minds, but at the same time achieved success without injury to their health, and attained that degree of eminence which made their lives so remarkable. We know "*mens sana in corpore sano*" is a truism not alone in its full meaning, but in the enjoyment of which, many things in life otherwise unbearable, appear to us easy of burden. And many objects apparently beyond our reach, when we are suffering from mental or bodily indisposition (if we may so term it), appear to us, when in sound mind, and good health, easy of attainment. Study in its relation to health must be considered not only mentally, but physically, as the two are so inseparably connected, that in considering the one we must not overlook the other.

With reference to the time for study, we would recommend before breakfast, if possible, as decidedly the best, as studying after a full meal is most injurious to health, by withdrawing a certain amount of nervous stimulus from the digestive organs, and thus impairing their efficiency; although it is stated some persons can apply themselves after a meal with more success, but for the reason above stated, we cannot entirely approve of this, as the time we select will materially influence the result. There are some also who can study best in the evening after tea; others appear to have an inclination to study towards night, and continue so until morning. This, if continuous and protracted, we consider would most assuredly impair the health, especially of the young, as sleep is so necessary to all, and more particularly to the youthful. How many of us, after a fatiguing day, gladly welcome the hour of repose, and seek "Nature's sweet restorer, balmy sleep." Thus long continued study, after the usual hour of retiring, must necessarily act injuriously on the system, by not allowing the human frame its indispensable rest. Now as to the method of study, each individual must be guided by his own experience and feelings. Some study best standing, others sitting; some walking about the room, which should be cool, and well lighted; sitting near the fire should be avoided because it is productive of drowsiness. Referring to the manner of study, repetition of sentences is to be preferred, and the student will find that reading aloud the subject to be committed to memory, will be of considerable assistance to him, by strengthening the chest, and giving clearness of tone to the voice. Writing down the subject to be learned is also mentioned as one of the aids to memory, but the stooping position rendered necessary in carrying out this method, has the disadvantage of causing (if continued) contraction of the chest, and giving rise to sedentary habits; therefore, we cannot commend it. In conclusion, we would impress on our readers the necessity of living

temperately and regularly during the season of study, as where there is gratification of appetite there is loss of mental application. The attention should not be forced when symptoms of weariness show themselves, and a short relaxation should be taken, either in change of subject or of scene; availing themselves of every opportunity of out-door exercise, and when the hour of study is past, not to let the mind dwell on the subject studied, for by diverting it for a time the student will find he can resume his theme with renewed ardour, and with mind and body refreshed.

MICHAEL A. GLEESON, M.D.

## NOTES ON "AS YOU LIKE IT."

*Continued from No. 11, page 21.*

172. ROSA. '*Me, uncle?*' Do you mean me, uncle? *Me* is governed by *mean*, understood. In common conversation we often leave out verbs and pronouns. There is also another purpose served here, besides making the language appear familiar. *Me, uncle, and you*, cousin, belong to 'And get you from our court.' The line scanned, would be—  
And gēt | yoŭ frōm | oŭr coŭrt | mē, ūncle | yoŭ, coŭsin.  
*Uncle* and *cousin* are each pronounced as one syllable.
173. DK. F. '*Thou be'st found.*' Be'st is obsolete. Milton uses it, *Par. Lost*, Bk. I., 84, Satan says to Beelzebub: 'If thou be'st be.' The persons are—If I be, If thou be, If he be, If we be, etc.
174. DK. F. '*Their purgation.*' Latin *purgatio*. In law it means a cleansing from suspicion of guilt.
175. " '*Thou art thy father's daughter.*' How much does this account for in real life; people are estimated, in a great measure, by what their ancestors did, and were, and not for what they are themselves.
176. CELIA. '*Dear Sovereign.*' *Sovereign*, not *father*, the very word by which a child would address a royal tyrannical parent.
177. DK. F. '*We stay'd her.*' (See Scene I., Note 8.)
178. " '*Rang'd along.*' Roamed: wandered at large.
179. CELIA. '*Juno's swans.*' Juno was a celebrated deity among the ancients, daughter of Saturn and Ops, sister to Jupiter, afterwards his wife (*vide* Lempriere's or Smith's Class. Dict.). Shakspeare probably intentionally makes Celia say Swans, instead of Peacocks; the latter bird being the favourite of Juno. She is frequently represented as sitting in a chariot, drawn by *two peacocks* (Juno's Aves). He supposes that young ladies might be allowed to make such a mistake without fear of contradiction.
180. DK. F. '*She robs thee of thy name.*' How envy works within his breast. This shows Shakspeare's knowledge of the world,

and that he wrote for all time is evident to all who consider such passages as this.

181. " 'My doom.' Doom pronounced by me, not to be suffered by me, but by Rosalind. Doom, here, equals sentence, judgment.
182. CELIA. 'No? hath not?' Asked in amazement. She wonders how Rosalind can conceive it possible for them to live apart. Such an instance of fidelity between friends of the sterner sex is rarely to be met with, and I doubt if it be very common amongst the softer sex.
183. " 'Thou and I am one.' *Am* is used to make the conjunction more emphatic. They are as it were only *one* when united by the tie of affection, and, therefore, a verb in the sing. is more appropriate when applied to two people in such a case as this. Shakspeare probably had this passage in his mind:—'A man shall leave his father and mother, and shall cleave unto his wife, and they (twain) shall be *one* flesh.' Gen. ii., 24.
184. " 'At our sorrows *pale*.' Very likely it was moonlight. Sir W. Scott uses the expression '*pale moonlight*.'
185. ROSA. '*Beauty provoketh thieves*,' &c. What a fine line! So far, in my opinion, the finest in the play. Provoketh here means incites, tempts, not irritates, angers, grieves.
186. CELIA. '*Umber smirch my face*.' Umber is a yellow, or brown-coloured earth, from Umbria, in Italy. *Smirch* means smear, daub.
187. ROSA. '*Suit me all parts*.' Dress me (at) all points, in every respect, even to the putting on of armour. 'Curtle axe,' a cutlass.
188. " '*Mannish cowards*.' Bold, masculine; having the appearance of manliness.
189. " '*Ganymede*.' According to Homer, Ganymede was the most beautiful of all mortals, and was carried off by the gods to be cup-bearer to Jupiter in Heaven. Milton, when describing the feast which the Devil set for our Lord in the wilderness, says, 'In order stood tall stripling youths, rich clad, of fairer hue than Ganymede.'
190. CELIA. '*Celia but Aliena*. Aliena, or *alien*, a foreigner; not a denizen, a stranger; not belonging to the same family or country.

#### ACT II.—SCENE I.

*Enter DUKE Senior, AMIENS, and other LORDS, &c.*

191. DK. S. '*Painted pomp*.' Show of royalty, gilded carriages, &c. Shakspeare calls a man's body without the soul, 'painted clay,' 'gilded loam.'
192. " '*Persuade me what I am*.' Remind him that he is but dust and ashes, a frail mortal, doomed to die, and not being

- surrounded with servile courtiers, he has leisure to think ; can prepare for, and meet calmly and without regret, death. 'The penalty of Adam.'
193. " 'A precious jewel.' The toad's eye is said to attract smaller animals towards itself, the possession of which peculiar property compensates the animal for its slowness of movement. In like manner adversity compensated those exiled people with the Duke, by giving 'Tongues to trees, books to running brooks, sermons to stones, and good to everything.'
194. " 'It *irks* me.' It grieves me. The verb to *irk* is impersonal, and seldom used ; we use the adj. *irksome*—unpleasant, wearisome.
195. " 'The poor dappled fools.' *That* the poor *spotted deer*—conj. *that* is understood, in order to make sense with the verb *should*, in the next line but one below, which it governs.
196. " 'Desert city.' Without *human* inhabitants, except the exiled Duke and his party. The word *burgher* suggested the idea of a city.
197. " 'With forked heads.' Barbed arrows.
198. LD. 1. 'Whose antique root.' Gray has a similar passage to this in his Elegy : 'That wreathes its old fantastic roots so high.'
199. " 'That brawls along.' Gray says, 'That babbles by.' Shakspeare's brook gives us the idea of a woman, Gray's that of a child. 'A woman *brawls*,' says Solomon, 'and a child *babbles*.'
200. " 'To the *which*.' *The* is inserted to make the line scan. See Note 12.
201. " 'Much marked of.' Much noticed by. See Note 54.
202. " 'Needless stream.' Not requiring tears to make it flow.
203. " 'Velvet friends.' His mates. '*Velvet*!' how satirical—friends in prosperity, but who had left him in his troubles and adversity, when he most needed their help and consolation. The way of the world. A fine theme to moralise upon.
204. " 'He pierceth through.' Inveighs against the ways of the country, the city, the court, and even themselves, in the forest.
205. " 'Kill them up.' Kill them off, extirpate them:
206. LD. 2. 'Weeping and commenting.' How fine is this. The very picture of a tender heart, and a subject for pity. We cannot fancy a stronger display of sympathy, than that one should weep at the sobs of another. Chaucer has something parallel to this in his description of the prioress in his 'Canterbury Tales.' He says of her, 'She was so charitable and so piteous. She woulde weep if that she saw a mouse caught in a trap, if it were dead or bled.'
207. DK. S. 'To cope him.' To converse with, come across, meet him.
208. " 'Sullen fits.' Fits of melancholy, or moralising.

## SCENE II.—A Room in the Palace.

Enter DUKE F., LORDS and ATTENDANTS.

209. DK. F. '*Are of consent.*' That is, are concerned in it, and know more than they choose to tell about it.
210. LD. 1. '*Saw her a-bed.*' *In bed*, adv. In the same way we have *ashore*, for *on shore*; *aboard* for *on board*, &c.
211. " '*Untreasur'd.*' What a fine word! the most courtierly he could have used. *Emptied* would have been insignificant in comparison, as regards loyalty.
212. LD. 2. '*Roynish clown.*' Literally *mangy*. The French *rogueux*. (Knight.)
213. " '*Sinewy Charles.*' Strong, powerful. This is after the manner of Homer, who applies descriptive epithets to most of his heroes; as, '*the swift-footed Achilles*;' '*the mighty Ajax*;' &c., &c.
214. DK. F. '*Inquisition quail.*' Fail in spirit, give in.

## SCENE III. Enter ORLANDO and ADAM, meeting.

215. ADAM. '*O you memory.*' Remembrancer, reminder, likeness, picture.
216. " '*What make you here?*' Note 22, (Act I).
217. " '*The bony priser.*' The '*sinewy Charles.*' It would appear that Charles was *bony*, as well as *sinewy*. Shakspeare wishes, by these epithets, to impress the idea of a very strong man, deeply upon us.
218. " '*Holy traitor.*' That is, his virtues; instead of serving the purpose of exalting him in the opinion of those with whom he lives, betray him into doing deeds which, though heroic in themselves, are turned, by malice, to his own hurt.
219. " '*Envenoms him.*' Poisons; as much as to say that his virtues just served him as a snake would, were he to carry one about with him, and nurse it in his bosom.
220. " '*No, no.*' The first *no* is an adv. of denial, and means *not so*; the second *no* means *not a*, and partakes of the adv. *not*, adj. *a*. *No*, in this sense, is the opposite to *some*, and an indef. adj. For explanation of the text enclosed in parenthesis, see Act I, Scene I.
221. " '*Use to lie.*' Are accustomed to lie. *Use* is in the pres. tense, and must not be confounded with past tense *used*.
222. " '*His practices.*' Designs, schemes; plans to get rid of you.
223. " '*This is no place.*' No dwelling-place for man; it is '*a butchery*;' i. e., a slaughter-house.
224. ORL. '*Base and boisterous sword.*' In a cowardly and blustering manner. The instrument is here put for the deed itself.
225. " '*Do, do how I can.*' This word *do* is used four times in these two lines. Shakspeare sometimes seems to take a fancy to make one word serve as many purposes as pos-



sible. By repeated repetition he fixes it upon the mind of the hearer, and, perhaps, thereby rouses flagging attention, which does not always keep pace with dry dialogue. This may have been his design in using the word *do so* often here ; at any rate, it is a concert not much in keeping with seriousness.

226. ADAM. '*Foster-nurse.*' To be his friend and guardian when all else failed him. A *foster-nurse* is one who adopts a child when there is no one else to care for it ; when its *natural* mother cannot, or will not, nurse it.
227. " '*Age in corners thrown.*' *Should lie.* The verb used in the preceding line, is understood here ; thus, '*Age (should lie) in corners thrown.*'
228. " '*Be comfort.* The nom. to this verb is '*He*' in the 2nd line above, with *may* understood ; thus, '*May he be comfort.*' This verb is 3rd pers. sing. pres. tense, poten. mood, pass. voice, and expresses a desire or wish.
229. " '*Nor did not.*' See Note 85.
230. " '*Frosty, but kindly.* That is, it shrivels up the face of nature, but it does not freeze so hard as to kill the roots deep in the ground. In like manner, Adam had all the outward appearances of an old man, but his constitution, or '*inner man*,' was not broken up or worn out, but still retained the sap and vigour of youth.
231. ORL. '*The antique world.*' Days gone by. He refers, I should say, to patriarchal times.
232. ORL. '*For meed.*' Reward, pay.
233. " '*Where none.*' When none ; or, *in which* none.
234. " '*But come thy ways.*' See Note 131.
235. " '*Settled low content.*' Some humble way of getting a living.
236. ADAM. '*Too late a week.*' 'An indefinite period, but still a short period ; somewhat too late.' (Knight.)

#### SCENE IV. The Forest of Arden.

Enter ROSALIND, &c. ; CELIA, &c. ; and TOUCHSTONE.

237. ROSA. '*Doublet and hose.*' Dress worn by men. The *doublet* was a kind of waistcoat, and *hose* were *breeches*, not *stockings*. Shakspeare uses the word in the same sense in 1st part Henry IV., act II., scene IV. '*Their points (braces) being broken, down fell their hose (breeches).*' '*Doublet and hose*' are here put, by metonymy, for *man*, as '*petticoat*' is put for *woman*.
238. CELIA. '*I cannot go no further.*' See Note 85.
239. TOUCH. '*Bear no cross.*' 'A piece of money stamped with a cross.' (Knight.)
240. ROSA. '*And an old.*' *Man* is understood after *old*. We use several other adjs. without their nouns ; as *wise, good, &c.*

Enter CORIN and SILVIUS.

241. SILV. 'Thy *fantasy*.' Enthusiasm, passion, love.  
 242. " 'Hast not *broke*.' Hast not *broken*, break, broke, broken.  
 See Note 48.  
 243. TOUCH. 'Coming *a-night*.' Coming *at night*. See Note 227.  
 244. " 'Her *batlet*.' The instrument with which washers beat clothes.  
 245. " 'Mortal in *folly*.' Mortally foolish, as we sometimes say;  
*i. e.*, foolish in the sense of, 'To err is human.'  
 246. " 'Something *stale*.' Somewhat, or rather stale; that is, it is  
 an *old fashion*, one almost out of date with him.  
 247. CELIA. 'Yond man.' Yond, dem. pron., used instead of *that*, than  
 which it is more applicable here, since *that* is applied to  
 an object close at hand, *yond* to one at a distance. See  
 note 119 (act I., scene II.).  
 248. ROSA. 'If *that love, or gold*.' Our expression 'For love or money,'  
 is slightly altered from this of Shakspeare's.  
 249. CORIN. 'Fleeces *that I graze*.' Sheep that I take to the pasture and  
 tend.  
 250. " 'Little *recks*.' Little *cares*. *Recks* is an act. intrans. verb,  
 now obsolete. Milton uses this verb *impersonally* in *Ly-*  
*cidas*, 'What *recks it* them?' A verb is said to be *imper-*  
*sonal* when it is only used in the 3rd pers. sing. with the  
 pron. *it* for its nominative.  
 251. " 'His *cote*.' His *cottage*. See below Rosa. We get this word  
 from the Sax. *cot, cote*. *Cot* or *cote* is a diminutive form of  
*cottage*. 'Mine be a *cot* beside the hill' (Rogers). And  
 Burns has, 'At length his lonely *cot* appears in view.'  
 252. CELIA. 'Waste my *time*.' Here *waste* has the meaning of *spend*,  
*pass*.  
 253. CORIN. 'The *profit*.' The productions.

SCENE V. Enter AMIENS, JACQUES, and Others.

254. AMI. 'My voice is *ragged*.' Rough, tuneless, discordant. *Rugged*  
 and *ragged* had formerly the same meaning.  
 255. " 'Too *disputable*.' Argumentative, disputative.  
 256. " 'To *this note*.' Tune, song.  
 257. " 'First-born of *Egypt*.' 'A proverbial expression for high-  
 born persons. (Knight.)

SCENE VI. Enter ORLANDO and ADAM.

258. ORL. 'Thy *conceit*.' The good opinion he had of himself at start-  
 ing, has almost died out, and will die out before his body  
 fails him.  
 259. " 'Well said *I*.' This expression, I take it, is equivalent to  
 our 'Well done *I*'  
 260. " 'Cheerly, good Adam *I*.' *Cheerly*, an adv. *Cheer up* is an  
 equivalent expression used at this day.

## SCENE VII. Enter DUKE Senior, AMIENS, LORDS, and Others.

261. DK. S. '*I think he be transformed.*' I think he (must) be transformed—*must* being understood. *Must* is left out in order to make the line scan, otherwise it would have had eleven syllables, and would have been a rough and rugged line.
262. LD. I. '*Hearing of a song.*' Shakspeare often puts a prep. after a verb that does not require one, in order to make the line the proper length. Here is an example where he uses *of* after hearing. We should say, now, '*Hearing a song,*' without the prep. *of*. He, also, sometimes uses a different prep. from the one we use now; for instance, '*Searching of thy wound,*' instead of '*Searching for,*' &c.
263. DK. S. '*Compact of jars.*' Compound of discords, made up of dissonant sounds.
264. JAQ. '*A motley fool.*' Called '*motley*' on account of the coat he wore, which was of many colours.
265. " '*Laid him down and bask'd him.*' Both verbs are act. intrans. as the actions do not pass over to another object, but are confined to the actor. *Him*—*him* are used respectively for *himself*—*himself*.
266. " '*Lady Fortune.*' See Notes 89, 90, 91.
267. " '*Good-morrow.*' For '*Good-day,*' the modern salutation.
268. " '*Dial from his poke.*' *Sun-dial* from his *pocket*, or fob. In some parts of England the word *poke* is used for a *small bag*. Possibly it means the projecting piece of leather in a cap, used to shade the eyes. The dial may have been stuck between this and his cap, like farm labourers do mice.
269. JAC. '*Lack-lustre eye.*' Meaningless, unexpressive, dim, soft, or watery looking. Most maniac's eyes are lustreless.
270. " '*We ripe and ripe.*' *Ripe* is now used only as an adj., but it is used here as a verb: ripe, riped, riped. The forms of the verb we use now, are ripen, ripened, ripened. Shakspeare is here comparing the life of man to fruit, which *ripens* by degrees, and after it has ripened it decays by degrees. So do human beings. We are said to be ripe when we die, and after death we gradually decay.
271. " '*Thereby hangs a tale.*' From this we may *gather a lesson*, or *learn a moral*.
272. " '*Sans intermission.*' *Without* ceasing. *Sans* is French.
273. " '*A motley coat.*' See Note 237.
274. " '*It is my only suit.*' The only dress that would suit me; a dress that would seem me well. Or *suit* may mean *request*, since this meaning is sometimes given to that word. The meaning here, however, is ambiguous.
275. " '*Withal.*' Adv., compounded of *with* and *all*. It means, *besides the rest*.

276. " 'Plain as way to parish church.' This expression is now passed into a proverb. Whether it was one in Shakspeare's time, or not, I cannot say.
277. " 'The bob.' The rap, the hit, the cut.
278. " 'Is anatomiz'd.' See Note 70.
279. " 'Squand'ring glances.' Squand'ring is here used, I should say, for wand'ring. Or, the expression may mean—Shafts of satire thrown carelessly about, wounding those who come within their reach.
280. " 'My medicine.' Cowper seems to have had this idea in his mind when he wrote, 'Most satirists are a public scourge, Their mildest physic is a farrier's purge.' See his poem on 'Charity' for a fine description of satire.
281. " 'The cost of princes.' Finery that has cost as much as would ransom a prince.
282. " 'His bravery.' His finery, the clothes and jewels he wears.
283. " 'Mettle of my speech.' Tenor, meaning, point, spirit.
284. " 'My taxing.' My reproach, censure, satire.

Enter ORLANDO, with his sword drawn.

285. ORL. 'Nor shalt not.' Double negative; equivalent to an affirmative, but not taken as such in the sense of the text. The proper English would be, 'Nor shalt thou.' See Note 85.
286. " 'Inland bred.' It seems Shakspeare thought people bred on the coast, being, in a great measure fishermen, were not so mannerly as those bred inland; or, it may be, that he uses the word inland for city.
287. " 'An you will.' If you will. An in old English—if.
288. DK. S. 'What would you have.' These two lines, spoken by the Duke, we might say, are universally true, and form a rule of conduct equal to the golden one: 'Do unto others as you would they should do unto you.'
289. ORL. 'The countenance.' The appearance, the manner. See Note 15.
290. " 'Lose and neglect the creeping hours.' Cowper has copied this idea: 'Meditation here may think down hours to moments.' See Task, Bk. VI., line 84.
291. " 'If ever you have look'd.' Cowper has likewise copied this very closely: 'If ever thou hast felt another's pain, If ever when he sighed, hast sighed again,' &c. See 'Hope.' No doubt Cowper was unconscious of having copied these ideas, and almost the very words, from Shakspeare, or he would have acknowledged them. He says, in one of his letters, that he had not read a poet for seventeen years, and this at a time when he wrote much poetry. This instance helps to prove the theory, that ideas, once thoroughly imbibed, never leave us, but are apt to spring up and find a place in our own words and works, when we are all unconscious of the source whence they spring.

292. „ 'Forbear your food.' Forbear (to eat) your food.
293. „ 'While, whiles.' *While* is a noun, and means *time*. *Whiles* is an adv. of time, and equals *until*.
294. „ 'Weak evils.' 'Causes of weakness.' (Knight.)
295. DK. S. 'Wherein we play in.' The word *in* seems to be redundant, and it is used to fill up the line. Without it there would be only nine syllables, thus, 'Wherein | we play | All the | world's a | stage;' and the line would halt all the way through. 'Wherein we play,' is better English, but Shakspeare often sacrifices grammar to rhythm.
296. JAQ. 'All the world's a stage.' This speech presents pictures of human life such as never yet fell to the lot of any other man to draw. Shakspeare alone had the power. His universal genius took in all mankind at a grasp. He had them painted on his spacious mind, and engraven in his heart as with a pen of iron; and what was thus limned in him he has painted in sublimest colours for our use and pleasure. A finer description of the 'life of man,' from the cradle to the grave, could not be conceived. He has given us, in a few words, the whole of our existence upon earth—yea, he has drawn for us the world in miniature, and we may carry it about with us whithersoever we roam, without finding it a cumbrous or troublesome load. It would be folly to attempt to point out the beauty of any particular passage where all is so true to life, therefore, I leave the reader to judge for himself. He will find in this speech plenty of food for thought—a picture to admire—and a portrait to study, that will never grow old, or stale, or dingy, or be out of fashion, or be of an old school. This is a speech made for all time, and so long as the English language lasts, so long will this description of the 'seven ages of man' retain all its freshness of colour, and its outline will be as distinctly traced ages hence, as on the day when Shakspeare sketched it.

Re-enter ORLANDO, with ADAM.

297. AMI. 'Waters warp.' Turn or change into ice. 'There was an old Saxon proverb: *Winter shall warp water*.' (Knight.)
298. „ 'Remember'd not.' *Rememb'ring not*, I think, would be more in accordance with what precedes it. It is possible there may be some corruption of the text here.
299. DK. S. 'His effigies.' Features, looks. Latin *effigies*, an *image*.
300. „ 'Residue of your fortune.' What you have done and suffered since you left home.

[To be continued.]

## UNIVERSITY INTELLIGENCE.

OXFORD.



HE "LE BAS PRIZE."—This prize is given for the best English Essay on a subject of general literature, the subject being occasionally chosen with reference to the history, institutions, and probable destinies and prospects of the Anglo-Indian Empire. The examiners have given notice that the subject for the present year is :—

"The changes in the English language during the period between Wickliffe's Translation and the Authorised Version."

Candidates for the prize must be graduates of the University, who are not more than three years' standing from their first degrees when the essays are sent in. The essays must be sent in to the Vice-Chancellor before the end of the Easter Term, 1870; each bearing some motto, and accompanied by a sealed paper, bearing the same motto, and enclosing the name of the candidate and that of his college. The successful candidate is required to publish the essay at his own expense.

"THE SACRED PRIZE POEM."—The subject selected for 1872, is "The Lake of Gennesaret."

LATIN PROFESSORSHIP.—The election to this professorship will take place during the course of Hilary Term, 1870. Candidates are requested to send their names to the registrar of the University, on or before Tuesday, February 1, 1870, after which day no names will be received.

UNIVERSITY COLLEGE.—An election to an open fellowship in this college will be held on Saturday, the 22nd of January next.

Candidates must have passed all the examinations required by the University of Oxford for the degree of bachelor of arts, and must not be in possession of property which would disqualify for retaining a fellowship.

In the election regard will be had, among other qualifications, to the willingness of the candidates to reside and take part in the instruction of the college, if desired.

The examination will be chiefly in the subjects recognised in the School of Literæ Humaniores.

An examination will be held in this college on Tuesday the 22nd of February next, and following days, for two open scholarships, of the value of £80 per annum during residence, and tenable for five years from the election. Candidates, if already members of the University, must not have completed the eighth term from their matriculation.

Also for a Lodge Exhibition, for a deserving person in need of assistance at the University, of the value of £80 during residence, and tenable for eighteen terms from the matriculation. Candidates for this exhibition must not have exceeded twenty-one years of age, and if already members of the University, must not have completed four terms from their matriculation.

Optional Papers will be given in Mathematics, and all candidates

will, unless they have passed Responsions, be examined in Arithmetic, and in either Euclid Books I and II., or in Algebra, as far as Simple Equations inclusive.

At the same time with this examination, six vacancies for commoners, who wish to commence their residence in the following Easter or Michaelmas Term, will be given by competition. For these also optional papers will be given in Mathematics. The candidates are requested to communicate by letter with the master, and to send certificates of their baptism, and testimonials from their school, before the 19th of February, and to call on the Master on Monday, the 21st. The examination will commence at half-past nine o'clock on February 22.

#### CAMBRIDGE.

In the year 1870 there will be open for competition four minor scholarships at St. John's College—two of the value of £70 per annum, and two of £50 per annum—together with three exhibitions of £50 per annum, tenable on the same terms as the minor scholarships. The examination of candidates for the above-mentioned scholarships and exhibitions will commence on Tuesday, the 26th of April, 1870, at 9 a.m. The examination will consist of three mathematical papers and four classical papers; and the latter will contain passages of Greek and Latin prose and verse for translation into English, and also each a passage from an English author for the corresponding prose or verse composition. In addition to the papers above-mentioned, the candidates will be examined *vivâ voce* in classics, and the Masters and Seniors wish it to be understood that a candidate may be elected on the ground of proficiency in either the classical or mathematical branch of the examination independently of the other. Besides the seven minor scholarships or exhibitions above-mentioned, there will be offered for competition an exhibition of £50 per annum for proficiency in natural science, the exhibition to be tenable for three years in case the exhibitor have passed within two years the previous examination as required for candidates for honours; otherwise the exhibition to cease at the end of two years. The candidates for the Natural Science Exhibition will have a special examination on Friday and Saturday, the 29th and 30th of April, 1870, in—1, Chymistry, including practical work in the laboratory; 2, Physics—viz., electricity, heat, light; 3, Physiology. They will also have the opportunity of being examined in one or more of the following subjects—4, Geology; 5, Anatomy; 6, Botany, provided that they give notice of the subjects in which they wish to be examined four weeks prior to the examination. No candidate will be examined in more than three of these six subjects, whereof one at least must be chosen from the former group. It is the wish of the Master and Seniors that the excellence in some single department should be specially regarded by the candidates. They may also, if they think fit, offer themselves for examination in any of the classical or mathematical subjects. Candidates must send their names to one of the tutors at least ten days before the commencement of the examination, and if they have not been already admitted members of the college must send the certificates required.

previous to admission—viz., a certificate of baptism and a certificate from some M.A. of Oxford or Cambridge, drawn up in the following form:—"I hereby certify that I have examined ———, and I consider him qualified, both in manners and learning, to be admitted a member of the University of Cambridge." The minor scholarships are open to all persons under twenty years of age, whether students in the University or not, who have not yet commenced residence in the University, or who are in the first term of their residence. A minor scholarship is tenable for two years, or until the scholar is elected to one of the foundation scholarships. The exhibitions are not limited in respect to the age of candidates. It is understood that minor scholars or exhibitors may be candidates for sizarships.

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### CORRESPONDENCE.\*

*To the Editor of the Quarterly Journal of Education.*

SIR,—In Scherr's *Leicht fassliches Handbuch der Pädagogik* (three good-sized volumes, by the way; what a notion those Germans have of an "easily graspable hand-book!") there is a chapter made up of letters from his scholars, in which they give their early experiences. The notion is an excellent one. What we want in education is to gather together the actual experience of teachers, and if possible of learners, and thus have light thrown on every side of our subject. "Every one is to be believed in his own art," says the proverb, and without going to this length, we must admit that every one who can be got to talk sincerely and simply about his own art, is worth listening to. Hence it is that the correspondence in newspapers is so often interesting. The *Times*, for instance, has a staff of highly paid professional writers, but the letters from non-professionals are more commonly read than the leading articles.

Why should the practice of introducing letters from persons who have more practical knowledge of their subject than the mere literary man can possibly have, be confined to our daily and weekly periodicals? And not to consider the general question any further, why should not teachers give their experience and their opinions on matters of practical interest in such a publication as the *Quarterly Journal of Education*?

I have no means of knowing what you will think of my suggestion, but on the chance of your inserting my letter in the *Journal*, I offer a few remarks on punishment, which have occurred to me on reading Mr. Hope's "Stories of School Life."

Hope's 'Mr. Jardine' endeavours to do what few masters do consistently, viz., to make a marked difference in his manner of treating *mala prohibita* and *mala in se*. Perhaps the most demoralising thing about the occupation of a school teacher, is his constantly coming in contact with trifling irregularities, which must be kept under by punish-

\* [We heartily agree with the expressions and suggestions of our correspondent, and shall be glad to receive communications upon School-work or Management, from experienced members of the profession. *Ed.*]



ment. So long as he is in good spirits he is sorely tempted to overlook these altogether. Let us suppose, however, that he resists this temptation : he may then give what punishment seems necessary, and may yet treat the offender good-temperedly. But here his very good-nature comes in and leads him to treat trifles too seriously. He does not like punishing a boy for an irregularity, and so he tries to make simulated anger do the work of punishment. Out of mere kindness he 'blows up,' or 'jaws,' the boy, instead of exacting a penalty. This, of course, he cannot do good-temperedly, and thus the *mala prohibita* becomes at once confounded with the *mala in se*. An attempt of this kind, however well-meant, is sure to prove a failure in every way. The 'jaw' becomes ineffectual, the master is vexed at finding it so ; he probably loses his temper, and whether he does or no, he has to punish his boys in the end for their fault,—his own, too.

When a master is out of temper, setting punishments for trifles comes naturally enough to him, and is a relief to his feelings ; but then of course he is apt to treat a boy who has whispered in class as he should treat him if he had been telling lies. The right plan is to annex certain penalties to those trifling offences which would become inconveniently frequent if unnoticed ; and then to exact these penalties with a mechanical, and so feelingless, precision. In this way punishments may be both set and taken good-temperedly. So long as a boy does not think that he is 'spited,' he no more feels angry when kept in by a master than when kept in by the weather.

It is, however, very much harder than one would suppose to punish in this mechanical way. The master is always tempted to make exceptions in favour of boys he likes, or of boys who do their work well, and stand high in their form. In these cases he has a tendency to shut his eyes, or if this is impossible, say, "The next time you do so-and-so—"*Forbear threatening*, would be a very good rule for the schoolmaster, but he is no ordinary man who can abide by it.

The question of first offences is an interesting one. I read a story somewhere (was it in "Basil Hall?") of a captain who ordered a man to be flogged. The man pleaded that it was the first time there had been anything against him. "Then I certainly shan't let you off," said the captain ; "I never forgive a *first* offence." The common notion that first offences ought to be pardoned, seems based on two distinct pleas : 1st, that the culprit's previous good conduct has given him a certain merit, which should be allowed to outweigh his first offence. 2nd, that so long as he belongs to the unpunished he has a strong inducement to avoid the degradation of punishment, and that it is better to let him off once than to destroy this inducement. I cannot decide whether the captain's or the common practice is on the whole the better, but I am quite sure that threatening to do so-and-so *next time* is a bad plan in a school. Of course there are cases where the law has not hitherto been clear, and the penalty must thus be announced ; but even then the master should be very careful that he does not in his eagerness to prevent the recurrence of the offence, make the penalty greater than he will afterwards care to inflict.

I hope these few observations give evidence of my having had something to do with the subject of them. They cannot pretend to any other merit, but as I always take an interest in what any one engaged in school-work thinks on such matters, I believe that there are some who will take a similar interest in what I think myself.

Your obedient servant,  
A TEACHER.

## NOTICES OF NEW BOOKS.

*Electricity of the Blood.* By R. C. SHETTLE, M.D. H. Baillière, Regent Street.

**W**E had a very interesting paper given us lately on the electricity of the blood, having reference to the "electric character of some of the principal functions of animal life." The paper itself is one of great excellence, and though we don't agree with its author, Dr. Shettle, in all his remarks, we must give him the credit he has so well earned in his essay for original research and close observation. These excellencies would of themselves entitle the paper to be received with respect; but when we add that the subject bears on the elucidation of the highly complex phenomena of life, a theme which must always possess an interest to the thoughtful mind, we think that its claim to attention is enhanced. The discussion is one of extreme difficulty, for from its intricacy, and the hidden nature of the processes to be explained, it is difficult to collect data on which to reason; while the subtlety of the operation of vital force is such as almost to baffle the keenest observation. Much, however, can be done by patient research; and it should not be forgotten that a great deal remains unknown only because unattempted.

Dr. Shettle's subject, "the electricity of the blood considered in its relation to the processes of digestion and the absorption of chyle," is one which, at the very outset, presents difficulties well nigh insuperable, at least in the present state of the science. On the one hand there is the subtle agency of electricity to deal with; on the other, the secret operations of nature as employed in the processes of digestion. These latter have been ill observed; and the solitary case that presented the rare opportunity of watching the process in the stomach can only account for the most ordinary of its phenomena as they occur in that organ; while the lessons derived from this case would teach us much reserve in receiving the theories of the ablest men on the subject, since the result was to overthrow some theories that had the sanction of high names and considerable antiquity. Everything else, however, connected with digestion, except those grosser acts which strike the senses, must still be regarded as a wide field for speculation, although it must be admitted that as observation proceeds the limits of our knowledge of fact are ex-

tended. The knowledge of the fact, however, does not by any means imply a knowledge of its cause. In his observation of facts Dr. Shettle has shown himself a careful and exact enquirer; and notwithstanding the uncertainty which shrouds the more obscure and subtle of the processes of digestion, he has succeeded in placing before us a valuable paper, in which the ascertained truths are distinctly set forth, and his own explanation of these facts clearly stated.

As said before, we don't agree with all the statements made, and especially those which would regard electricity as a vital force—as Dr. Shettle expresses it—"that under chemical action there must be a manifestation of electrical force, and that such force then becomes a vital force." In the first place, we see no *a priori* reason for the manifestation of such force under a chemical action, as is said; and in the second, in the meaning which in all fairness is attachable to the phrase, it amounts to the assertion that electrical and vital force are one and the same thing—an assertion that would require much more direct proof than can at present be supplied. The numerous attempts to explain and define life have hitherto signally failed. It is a principle which eludes our grasp; and we believe that it is better to accept the fact of our ignorance of its nature, than to make useless endeavours to explain and define what is unexplainable. All attempts to do so must end by reducing to a dull materialism all our beliefs as to its nature and its cause. Some of its phenomena we may observe, but the principle—the cause of these phenomena—is not to be explained by an appeal to the material, unless we would reduce to merely mechanical laws that essence of life which at the first we received from the hands of the Creator.

Apart from considerations of a metaphysical nature, however, there are others of a more purely scientific caste which would urge us to withhold belief in the identity of the two principles. These are to be found in the facts that, electricity exists as a force apart from, and independently of, vital phenomena; that inanimate organs are as good conductors of electricity as living organisms; that electricity is produced externally to the living body; and that the attempt to produce some of the lower forms of life—as vibriones, monads, and infusoria—by electricity, has been proved by the well-considered experiments of Professor Schulze, of Berlin, to be a complete failure; none of which could have been the case were it, as here claimed, a vital principle. Then it is not to be forgotten that the phenomena of electricity might be exhibited in the blood without its being, in the remotest degree, a vital principle, but simply in connection with elements held in solution in that fluid. But perhaps as strong an argument as any against the idea of electricity being a vital force exists in the fact that some animals—as the *gymnotus electricus*—have a special apparatus for the generation of electric force quite independently of, and superadded to, the usual organs for the discharge of the vital functions. In that animal, for example, a few discharges exhaust the electricity in the batteries, and impair its capacity for generating more, while its life remains intact as before the discharge, uninfluenced, in fact, by the loss. This, of course, could not be were this a vital principle, affecting and controlling the life of the animal or its vital force;

nor would it be a special provision, peculiar to a few animals, were it a vital principle as claimed for it.

If, however, the author means simply that electricity is merely the means employed for the carrying on of some of the phenomena of digestion, we don't so much dissent from his statement. It may be such a means, and according to the able theory before us, we can easily comprehend how it could be a very efficient agency in furthering the processes both of primary and secondary digestions. In this modified view of the proposition, in which it becomes an agent—not the moving cause—many could concur; while if the first claim were advanced, they would feel compelled to withhold their assent, on grounds which are purely scientific, and which leave considerations drawn from sacred writ entirely out of the question.

The essay is throughout well written. The remarks on the absorption of chyle and the formation of cell walls are especially worthy of attention. We would recommend, too, the chapter on the liver for careful perusal, assured that much thought will be awakened, and much useful information gained, by the lucid though short chapter devoted to this subject.

R. A. S.

*The Explicit Euclid.* Chambers. 2s.

We imagine from many of the signs of the times, that Euclid will not be used at all to teach geometry in this country in the course of another ten or fifteen years; but whether this may be true or not, we do not see the advantage of adding one more to the already numerous editions of this work, unless very decided improvements are made on those that have gone before. Probably the publishers of the *Explicit Euclid* would agree with us in this remark, but certainly we do not agree with them in thinking this book has introduced any change worth naming. Credit is claimed for it on two grounds, principally; first, that blank spaces are left between the successive steps of the demonstrations, and that consequently the progress of the argument is thus more clearly set forth. Well, this is an advance on the "*Plane Geometry*," issued by the same publishers some years ago, where the lines of the propositions run on continuously; but considering that two, at least, of the Cambridge editions have effected the same result by giving separate successive lines to the different stages of the proof, we say that this latest mode of setting out the type is not an improvement on what has been done before, but rather the reverse. The second change is that in the "particular enunciations" of the text, the things *given* and things *required* are carefully distinguished by italics to the words we have now italicised. If a student has the help of a tutor, the latter will certainly call his attention to the necessity of observing this distinction; but even if he has to work entirely alone, he will soon learn to distinguish these things for himself. Anyhow, it was scarcely necessary to have a new edition for this trifling improvement. There are scattered throughout the book a number of constructions and demonstrations different from Euclid, and these, as may easily be imagined, are better than his. A student may find some benefit in becoming acquainted with them, and so far the

work is commendable. It has also a small selection of exercises, or deductions, for practice, which is a good point; but on the whole, we do not see the necessity for the issue of this new edition of the elements. For some reason unknown to us, it seems proper that any geometry issued by this house, should contain a small treatise on plane trigonometry, of about thirty-five pages length, as a sort of appendix. This explicit Euclid contains such an addendum. We have only one remark to make on this part, and it is this: whoever buys the book for the sake of the geometry (in which he *may* find his advantage), ought carefully to avoid getting his first ideas of trigonometry from it. We had thought that all modern writers, without exception, would define the terms *sine*, *cosine*, &c., as ratios, and not as lines. This book, however, continues to use the old definitions, and so on this account alone ought to be avoided; for the modern definitions are almost universally prevalent, so that a learner who took up another book on trigonometry after this one, would find he had a great deal to unlearn, or at all events to modify.—S. D.

*Evenings at Home*, and *Æsop's Fables*. 1s. Cassell, Petter, & Galpin, London and New York.

'EVENINGS AT HOME' is a pleasing little volume in words of one syllable. The stories are told in that simple manner best suited to catch and retain the attention of the young; they are pleasing as well as instructive. The moral is always natural, and easily discovered. The publishers have done their part well, the type and paper are good. Altogether this little work, for neatness and usefulness, is fit to be put into the hands of the young, both to please and instruct.

'ÆSOP'S FABLES,' by the same enterprising publishers, is twin sister to 'Evenings at Home,' got up in the same neat and attractive style, also in words of one syllable. These fables have been long appreciated and esteemed for the simple, pointed language, in which the truths are conveyed to the mind; the moral naturally arising out of the fable. If all fables contained as much truth, and all sentiments as little fable, as those in this elegant, *petite* volume, society would be in a much more healthy state. I. S. S.

*Building Construction*. Cassell's Technical Series, No. III. 2s. By ELLIS A. DAVIDSON.

It would be a waste of time to reiterate what every careless observer must have noticed, when contrasting modern buildings with those of more ancient date. On the one hand we have substantiality and judicious arrangement, which, together with good materials and workmanship, have withstood the ravages of ages. On the other hand, we find a careless use of material, inferior workmanship, which, combined with the hurry in which the structures are raised, invite decay nearly before completion. The want of some scientific knowledge regarding the materials used by the workman, is detrimental to good workmanship. Mr. Davidson proposes in this series of text-books to give the knowledge so much needed. The one before us deals with building only, and as the

author is so careful to state, it gives but a "general knowledge of the principles of building construction," (*vide* introduction). The method adopted to give the requisite information is to commence first with the "working plans required for the general purposes of building," then the foundations, walls, arches, roofs, and other wood-work. The definitions, hints, etc., are well and clearly rendered, although there is too much reference constantly made to former volumes of the series, detracting in some instances very much from the value of the volume before us. Thus, we are told :—

"The methods of constructing these various curves are fully elucidated and illustrated in the first volume of this series, and it is therefore not necessary to repeat them in this place." P. 63.

We maintain that the methods ought to have been given here. Without them the book is incomplete. Again, why not have given an index, consisting of two or three pages, referring to the different technical terms used, and giving a short, terse definition of each.

On the whole, this book will be found very valuable. A mass of information is condensed in these 120 pages, which gives great credit to the author's discriminative powers; nothing extraneous to the subject is mentioned, and scarcely anything connected with it is left unmentioned. The style is simple, clear, and concise. Thus, the youngest student could understand the advice for mixing colours :—

"When you are about rubbing up some colour, firstly see the slab is not dusty. Then drop some water on it from one of the larger brushes, but on no account dip the cake of colour into the cup or glass of water, which is a most wasteful plan, as it softens the cake and causes it to crumble off in rubbing."

Bad foundations have ruined many a building, and Mr. Davidson is careful to call attention to this fact, and attributes it to an unwise economy. Great damage and unsightliness also is frequently caused by the practice of driving nails at random, between the courses of bricks, instead of first plugging the place with wood, as recommended, p. 57.

We had marked several other places for reference, but space forbids us to speak of more than one. We would specially advise our readers to consult the pages devoted to the explanation of "joints in timber." This seems to us one of the most valuable parts of the work, and merits careful perusal.

The woodcuts, typography, and binding, are good, and such as might be expected to come from the hands of so eminent a firm.—B. 1.  
*Bilton's Reading Books*, Book III. Girls' Edition, 9d. Longmans, Green & Co.

We have not seen the previous books, so that we have no means of judging the progressive nature of the series. We see in this part many old familiar anecdotes, which are calculated to awaken the interest and rivet the attention of the young scholar.

## EDUCATIONAL RECORD.

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HEADS OF A BILL PREPARED BY THE EXECUTIVE COMMITTEE OF NATIONAL EDUCATION LEAGUE, TO BE INTRODUCED INTO PARLIAMENT IN THE SESSION OF 1870.

**SCHOOL DISTRICTS AND SCHOOL BOARDS.**—Boroughs and towns locally governed to be formed into School Districts. Local governing bodies, if elected by ratepayers, to appoint School Boards, partly or wholly from their own bodies, to carry out the Act.

In rural districts, and places where there are no local governing bodies elected by ratepayers, Unions or groups of Unions to be taken as the areas of School Districts, and School Boards to be elected by ratepayers in parishes, in the same proportion as guardians of the poor.

Boundaries of School Districts to be altered, or new districts created in counties, by sanction of the Committee of Council, on memorial from inhabitants.

**POWERS OF SCHOOL BOARDS.**—School Boards to see that a sufficient number of efficient schools are provided in their districts. To have compulsory powers for the purchase of school sites. To establish and maintain ordinary day schools, and where necessary, certified industrial schools. To enforce the Industrial Schools Act, in regard to vagrant children. To make and keep registers of all children of school age in their district; such register to be founded upon the register of births, and to be periodically revised. For these and all other purposes of the Act, School Boards to have power to levy rates for education, to be collected by overseers with the poor-rate, on precept of School Board.

**NATIONAL RATE SCHOOLS.**—To be managed by School Boards, or by committees appointed by them. To be of various grades, provision being made to enable children to pass from lower to upper grades, but no provision to be made out of the rates for the maintenance of scholars. National Rate Schools to be free to all.

No creed, catechism, or tenet peculiar to any sect shall be taught in any National Rate School; but the School Board shall have power to grant the use of the school rooms out of school hours for the giving of religious instruction, provided that no undue preference be given to one or more sects, to the exclusion of others. But the rooms shall not be granted for purposes of religious worship. \* \* All books used in the school must have the approval of the School Board.

**COMPULSORY ATTENDANCE.**—All children to be required to attend school, from six to fourteen years, subject to provisions of Factory Acts. Number of attendances to be fixed by Committee of Council, but not to be less than 200 yearly of two hours and a-half each for full-timers; and of 100 of two and a-half hours each for half-timers.

In rural districts (to be defined by Committee of Council) attendances to be at such times as may be settled by School Boards, with consent of Committee of Council.

Children to be deemed to attend school if they attend (1) a National Rate School; (2) any school receiving Government grants; (3) any private school, or private tuition, considered satisfactory by School Boards; (4) Reformatory School; (5) Certified Industrial School; (6) or a Parish (workhouse) School.

Any private school not considered satisfactory to School Board to have right of appeal to Committee of Council.

All schools, whether under Government inspection or not, to keep registers of attendance, to be open to inspection by a visitor of the School Board, or by the Government inspector of the district.

School Board to appoint a school visitor or visitors, to examine attendance books of National Rate Schools, and report to School Board cases of total omission or irregular attendance.

School Board or committee to have power to excuse absence on account of sickness, &c. If the reasons assigned for absence are unsatisfactory, the Board shall have power to institute proceedings against the parents, who will incur certain penalties.

**EXISTING SCHOOLS.**—School Board to have power to negotiate with trustees and managers of existing schools for purchase and transfer of buildings to School Board.

Managers or trustees of existing schools may apply to have their schools converted into National Rate Schools; and if such conversion is approved, and the managers undertake to fulfil all requirements of the Act, the School Board may appoint such managers to be the school committee.

Existing schools under Government inspection, admitting all children free, and arranging their religious teaching in such a manner that it may be at a distinct time, either immediately before or after ordinary school business, and that attendance at such religious teaching shall not be compulsory, and that there shall be no disability for non-attendance, shall receive two-thirds from Government. But any portion not exceeding one-half may be withdrawn if the inspector reports unfavourably.

**PROVISION OF FUNDS.**—Expenses of School Boards to be defrayed in the proportion of one-third by local rate, and of two-thirds from the Consolidated Fund. Government grant of two-thirds for maintenance of schools to depend, as in the case of existing schools, upon the results of examination by Government inspectors. Certain deductions to be made from Government grant if report is unfavourable.

**POWERS OF COMMITTEE OF COUNCIL.**—In School Districts where no school Board is elected within three months after the passing of the Act, the Committee of Council shall appoint a board to act as the School Board, and provide sufficient school accommodation, under pain of certain penalties if neglected.

**MISCELLANEOUS.**—Committee of Council to establish and maintain Normal Schools for the training of teachers for National Rate Schools. No creed, catechism, or tenets of any sect to be taught in such schools.

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#### **PUBLIC SCHOOLS COMMISSION.**

**ETON.**—The following is the statute for appointing “The New Governing Body of Eton School,” made by the existing Governing Body of that school, in pursuance of the Public Schools Act, 1868:—

“Whereas by the Public Schools Act, 1868, ‘school’ is defined in the case of Eton to include Eton College, and at Eton the Provost and Fellows are declared for the purposes of the Act to be ‘the existing Governing Body’ of the school; and whereas by the fifth section of the said Act, it is provided that the existing Governing Body of each of the schools to which the said Act applies may, at any time before the 1st day of May, 1869, or within such further time as may be determined by Her Majesty in Council as thereafter mentioned, make a statute or statutes for determining and establishing the constitution of the Governing Body of each of the said schools in such manner as may be deemed expedient, and a Governing Body, the constitution of



which has been altered in pursuance of the said Act, is therein referred to as the new Governing Body of a school :

"Now, the said Provost and Fellows, in pursuance of the said Act, and of every other power enabling them in that behalf, do by this statute enact as follows—that is to say :—

"1. The new Governing Body of Eton School, as defined by the said Act, and for the purposes thereof, shall consist of—

"The Provost of Eton.

"The Provost of King's College, Cambridge.

"One member to be elected by the Hebdomadal Council of Oxford University.

"One member to be elected by the Council of the Senate of Cambridge University.

"One member to be elected by the Council of the Royal Society.

"One member to be nominated by the Lord Chief Justice of England for the time being.

"One member to be elected by the Head, Lower, and Assistant Masters ; but not to be chosen out of their own body, such member to be elected for five years, and to be re-eligible.

"Not less than two and not more than four members to be elected by the new Governing Body themselves.

"All members of the Governing Body shall be members of the Church of England, and duly qualified in the opinion of the electors to take part in the government of the school as a place of liberal education.

"2. The first meeting of the new Governing Body shall be summoned by the Provost, and shall be held in London.

"3. Subsequent meetings shall be summoned at such times and places (the places being Eton or London) as the new Governing Body may determine.

"4. No business shall be transacted at a meeting of the new Governing Body unless five members at the least be present.

"5. The Provost of Eton being present shall be the chairman, and in his absence the meeting shall elect a chairman.

"6. Every question at a meeting shall be determined by a majority of votes of the members present and voting on the question, and in case of an equality of votes the chairman shall have a second or casting vote.

"7. Any statute, regulation, scheme, act or deed of the new Governing Body shall be made in the name of 'The New Governing Body of Eton School,' and shall be authenticated by the signature of three members of that body.

"8. Any vacancy in the body occasioned by death, resignation, or incapacity to act, shall be supplied by election or nomination in the same way as the member causing such vacancy was elected or nominated.

"9. Subject as aforesaid, the new Governing Body may make such rules as to their proceedings and the conduct of their business as they think expedient.

"10. Any of the provisions of this statute, with the exception of the provisions relating to the appointment of members of the new Governing Body hereinbefore named, may be revoked by a statute made by the new Governing Body in pursuance of the said Act.

"Approved and sealed by the special Commissioners appointed for the purposes of the 'Public Schools Act, 1868,' the 11th day of May, 1869."

WESTMINSTER.—The following is the statute for determining and establishing the constitution of the Governing Body of St. Peter's College, Westminster, commonly called Westminster School :—

"We, the Dean and Chapter of Westminster, the Dean of Christ Church, Oxford, and the Master of Trinity College, Cambridge, the existing Governing Body of St. Peter's College, Westminster, otherwise called Westminster School, do, in execution of the power given to us by the Public Schools Act, 1868, make the following Statute for determining and establishing the constitution of the Governing Body of the said school :—

"1. The Governing Body of the said college or school, including in that term boys not on the foundation of the said college or school, as well as boys on the foundation thereof, shall henceforth consist of the following *ex-officio* members, namely :—The Dean of Westminster; the Dean of Christ Church, Oxford; the Master of Trinity College, Cambridge.

"And of the following elective members, namely :—Two persons to be elected by the Dean and Chapter of Westminster; one person to be elected by the Governing Body of Christ Church, Oxford; one person to be elected by the Masters and Seniors of Trinity College, Cambridge; one person to be elected by the Council of the Royal Society; one person to be nominated by the Lord Chief Justice of England for the time being.

"Not less than two, and not more than four, members to be elected by the Governing Body for the time being.

"2. The first election of members to be elected by the Governing Body for the time being shall take place at a meeting at which not less than seven of the persons hereinbefore respectively referred to as *ex-officio* and elective members are present, and of which notice specifying the purpose of the meeting has been given by the Dean of Westminster; subsequent elections shall be held by the Governing Body for the time being.

"3. Any person may be elected or nominated a member of the Governing Body who is a member of the Church of England, and duly qualified in the judgment of the person or persons by whom he is elected or nominated to take part in the government of the school as a place of liberal education, provided that whenever two of the Canons of Westminster are members of the Governing Body no other Canon of Westminster shall be qualified to be elected or nominated as a member.

"4. Subject to the provisions hereinbefore contained with respect to the election of members to be elected by the Governing Body for the time being, all vacancies occurring among the elective members shall be from time to time filled up by the appointment of a member by the person, or body of persons, by whom the member was appointed in respect of whom the vacancy occurs.

"5. If any elective member be absent from every meeting of the Governing Body during the space of two years he shall, *ipso facto*, cease to be a member.

"6. At any meeting of the Governing Body seven shall be a quorum.

"7. At any meeting of the Governing Body the Dean of Westminster, or, in his absence, the person selected by that meeting, shall be chairman.

"In case of an equality of votes the chairman shall have a second or casting vote.

"Given under the common seal of the Dean and Chapter of Westminster, and the hands and seal of the Dean of Christ Church, Oxford, and the Master of Trinity College, Cambridge, respectively, this 17th day of May, 1869.

"A. P. STANLEY (L.S.), Dean.

"H. G. LIDDELL (L.S.), Dean of Christ Church, Oxford.

"W. H. THOMPSON (L.S.), Master of Trinity College, Cambridge.

"Approved and sealed by the Special Commissioners appointed for the purposes of the Public Schools Act, 1868, the 29th day of May, 1869."

**MR. FORSTER ON EDUCATION.**—The following extracts are culled from this gentleman's speeches at Liverpool : " Endowments are applied in three ways—first, in providing the building : secondly, in paying the masters ; and thirdly, in providing a free education for certain scholars. On the third point he would simply now say that, generally speaking, indiscriminate free education, or education given by patronage to the middle classes, did no good, and generally did great harm. With regard to the payment of masters, he was of opinion that there was an advantage in securing to a master a small competence, sufficiency or guarantee, and he was told that, to a certain extent, that principle was adopted. But to make the salary of a master independent of his exertions was about the worst possible way of getting work. Under the old endowments the master was quite independent of his work, and the result was that there was very little work to be independent of. With regard to the provision for buildings, the commissioners came to the conclusion that that was one which in the present state of education in the country they could not do without. Endowments had advantages, but they might become a drawback, and even a curse, when they were made the means of giving an education which was founded on what was good centuries ago, but which did not attempt to supply the wants of the present time. . . . In dealing with the endowments throughout the country, he wished to see indiscriminate free education, with its corrupting conditions replaced by a system which would enable the clever boys in one station of life, if their parents thought it well for them to do so, to rise into another station of life by their own energy and knowledge. An exhibition should be attached to primary schools of all denominations attended by the children of working-men. Great good would be done in that way, not only to the schools which the successful boys left, but to those which they entered. He believed that if they could succeed in giving the working children, or an enormous proportion of them, an elementary education, there would be no lack of wise and wealthy men who would enable clever boys of that class to rise, if they showed they were able to do so by attaining greater knowledge. Money was not wanting ; it was faith in those that had the money that their money would be well spent. Perhaps the idea of giving elementary education to every child might be Utopian, and therefore he would be more moderate in his expectations. It was no doubt a fact that vast numbers were growing up in a state of ignorance, and if our consciences did not rebuke us for allowing them to grow up in that condition our sense of danger might alarm us. The children for whom we did not care now would make us care for them hereafter. . . . They heard a great deal about what was called the religious difficulty in education. The words provoked him. There was in them a contradiction of terms. That there should be any difficulty as between religion and education seemed in the nature of things to be impossible. When that difficulty occurred they might be sure it was not the fault of religion or of education, but of the people who had to deal with it. But he did not believe it was so much the fault of the people who had to deal with it. He believed it was the fault of those who talked about those who had to deal with it. He did not believe they would hear much of the religious difficulty in education, and in considering how they should legislate for it, they had merely to deal with parents and school-masters."

**TONIC SOL-FA CONFERENCE.**—A conference of the advocates of the tonic sol-fa system of musical instruction and of certificated school teachers was held on Saturday evening last, at the London Tavern, for the purpose of considering the propriety of extending the system in Government and other schools, and also of devising means for raising the standard of musical instruction generally throughout the country. In the absence of Mr. Vernon

Lushington, who had promised to preside, the chair was taken by Mr. Godfrey Lushington. Having apologised for his brother's absence, the chairman introduced to the meeting Mr. Curwen, the well-known promoter and advocate of the sol-fa method. Mr. Curwen gave a long and interesting history and explanation of his method, and with the assistance of some gentlemen present introduced some striking proofs of the facilities which it offered for musical composition. Mr. Curwen contended generally that there was no branch of musical composition or execution in which the sol-fa method would not offer great advantages over the ordinary notation. A very striking instance of the facility which sol-faists have in reading music at first sight was afforded by the boys of the Wyckliffe day schools, who sang several exercises and themes which they had never before seen in a very creditable manner. Mr. Evans, the master of the school, stated that none of those boys had had more than two years' teaching under the system; and that, during that time, they had received only two lessons of twenty minutes each weekly. None of these boys who had sung at first sight with such precision were over twelve years of age. Mr. Curwen, in concluding his address, urged his hearers to use every exertion in extending the cultivation of his system. The Council of Education having placed the tonic sol-fa method and notation on a footing with other methods and with the ordinary notation, he trusted that the normal school teachers would lose no time in introducing it into their schools. The system was largely used in Germany; and in Sydney had been established by the New South Wales Government. Mr. Curwen having resumed his seat amid loud cheers, a conversational discussion on the merits of the system followed; the preponderance of opinion amongst all present being decidedly in its favour. The following resolution was put and carried unanimously:—"That this meeting, having heard Mr. Curwen's explanation of the tonic sol-fa method, and believing it to be especially adapted to what is one of the highest necessities of our elementary schools—namely, the teaching of vocal music to the young—recommend it to the teachers of the day-schools of the metropolis as being worthy of a fair and impartial trial." The proceedings terminated with a vote of thanks to the chairman and to Mr. Curwen.

**BISHOP ULLATHORNE ON EDUCATION.**—Four thousand Catholics met in the Town Hall, Birmingham, Nov. 15th, under the presidency of Bishop Ullathorne, to express their opinions upon the education question. The Bishop denounced the scheme of the Education League as godless. He helped, he said, to overthrow, in 1850, Mr. Fox's plan, which, except with regard to compulsion, was the same as the measure of the League. Of all the victims of the League, the Catholics would be the chief. At the meeting of the League there was enough reference made to Catholics to show that their sentiments were contemptuously put aside as unworthy of consideration. He maintained that the proposed schools would be the most sectarian of all schools, representing merely the irreligious minority, such as deists and secularists. The scheme would raise such a conflict between power and authority as had not been known since it was felony and forfeiture of goods for a Catholic to be a school teacher, or to send his children to Catholic schools. In America parents withdrew children from the corrupting influence of public schools. The Irish people demanded an undenominational system. The Prussian system was practically denominational. Nowhere was a system like that of the League at work, and those approaching nearest to it were under sentence of condemnation from practical experience. The Bishop was enthusiastically cheered in denouncing every portion of the programme of the League. Lord Edward Howard moved a resolution to the effect that education, properly so called, is inseparable from religion. He agreed on all points with the bishop. Seconded by Canon O'Sullivan, and carried enthusiastically. A subsequent resolution approved of the denominational system.

ENDOWED GRAMMAR SCHOOLS IN THE NORTH.—The reports of the Royal Commission of 1864 on secondary education (the commission which had the late Lord Taunton for chairman), and the special reports of the assistant commissioners, and digests of information received, are now nearly all issued. Vol. XIX., which has just made its appearance, relates to the four most northern counties of England—Westmoreland, Durham, Cumberland, Northumberland. This northern division of the kingdom had, at the census of 1861, an urban population of 506,342, and a rural population of 611,442, or 1,117,784 in all. It contains 30 towns; Newcastle with more than 100,000 inhabitants, and five others with more than 20,000—viz.: Sunderland, South Shields, Gateshead, Tynemouth, and Carlisle. Of these 30 towns 13, with a united population of 200,923, have no grammar school endowments. The remaining 17 towns, with 66 other places not reckoned as towns, have endowments for secondary education of boys, the endowments producing a net annual income of £7,465, after deducting expenses for repairs, rates, insurances, &c., besides £818 for exhibitions. There are 10 classical schools, with 764 scholars; 14 semi-classical, with 743 scholars; 11 non-classical, with 658 scholars; 50 elementary. Several of these schools, though not elementary, have a mixed attendance of boys and girls. For the secondary instruction of girls alone there is an endowed school at Casterton, restricted to daughters of clergymen, and a girls' school is supported by the same charity which supports the grammar school at Rothbury, in Northumberland; the net annual value of these endowments is about £200. The endowments connected with the primary education of the poor in this division of the kingdom are 128 in number, the richest of which are at Stockton-on-Tees (gross income £238), Newcastle-on-Tyne (where the united gross income of five separate foundations is £538), and Kendal (where the united income of three separate foundations is £324). The aggregate gross annual income of these foundations amounts to about £4,450, of which about £3,770 forms the net sum applied to educational purposes. The total net income of the trusts for educational purposes in this division may therefore be set down at £12,250 a year. This does not include the share enjoyed by schools of this division in the exhibitions of Lady Hastings at Queen's College, Oxford, nor the Milner exhibitions at Magdalene College, Cambridge.

THE HON. AUBERON HERBERT ON UNIVERSITY FELLOWSHIPS.—The following letter from the Hon. Auberon Herbert will be read with lively interest, at a time when the question of University tests and other restrictions occupies a large degree of public attention:—"December 11, 1869—My dear President—I write to inform you that I have decided to resign my fellowship. I take this step for two reasons: first, because I do not believe in the Articles of the Church of England; and, secondly, because I am entirely opposed to the system of fellowships. I ought, perhaps, to add that those fellowships which were gained, as in my own case, under the old conditions of restricted competition, seem to me specially indefensible. I will only say in this letter that I consider that the use which we make at present of very extensive funds is unwise and unjust, as it limits the number of those to whom we can offer the advantages of a University education. In a few days I shall take another opportunity of stating what I believe Oxford, with her great resources, might be and might do for the whole people. I cannot separate myself from a society to which I have belonged for a good many years without expressing my sense of the personal kindness which I have always received both from you and all other members of that society, however often or however widely we may have differed in matters of opinion.—I am, my dear President, very faithfully, AUBERON HERBERT.—The Rev. the President of St. John's College."

UNIVERSITY TESTS.—Important meetings have been held both at Oxford and Cambridge, where the principal speakers deprecated the present test system, and resolutions were passed that "no declaration of religious belief or profession shall be required of any person upon obtaining a fellowship, or as a condition of its tenure." It was stated that there existed no sufficient excuse for retaining the tests, while there were many reasons of justice, and expediency for repealing them.

Why should nonconformists, &c., who in a religious point of view only differ from churchmen in minor points, be kept from enjoying those advantages and emoluments which the Universities can give? Some of the most eminent scholars under the present system are necessarily driven from the Universities, while men of inferior talents are called upon to supply—if it may be so called—their place.

THE WESTMINSTER PLAY.—The *Trinummus* of Plautus was substituted for a play of Terence, in the annual representation, which took place on the nights of the 9th, 14th, and 16th of December.

SINGULAR ACCIDENT AT KING'S COLLEGE.—Owing to the great works in progress in front of Somerset House, connected with the Thames Embankment, by which the columns were left unsupported, the roof of the dining-hall of King's College suddenly fell in. Fortunately no one was hurt, but had the accident happened in the middle of the day, it is probable that 200 persons would have perished. The fall took place on the 6th of December.

SPECIAL SUBJECTS—CAMBRIDGE LOCAL EXAMINATIONS, commencing Monday, December 12th, 1870.

1. DIVINITY.—Genesis, Exodus, and Gospel of St. Mark (J. and S.).
2. HISTORY.—From the accession of Henry VII. to the death of Elizabeth (Junior). With Literature (Senior).
3. LATIN.—Cæsar, B. G. i., and Virgil, *Æn.* ii. (Junior). Cicero, *pro Roscio Amerino*, and Horace, *Car.* iii. (Senior).
4. GREEK.—Xenophon's *Anabasis*, i. and Euripides, *Andromache* (omitting choruses) (Junior).  
Euripides' *Ion*, and Plato's *Apol. Socr.* (Senior).
5. FRENCH.—Erckmann, Chatrian, Madame Thérèse, and Racine, *Athalie*, former only for (Junior), both for (Senior).
6. GERMAN.—Heyse, *Novellen, Erste Sammlung*, pp. 1—89 (Junior).  
Lessing, *Oathan der Weise*, and Brugsch, *aus dem Orient*, pt. i. (Senior).

RUGBY—There is great opposition to the appointment of Mr. Hayman as Head Master of Rugby School. Of the twenty-one assistant masters twenty have memorialized the trustees for a re-consideration of the appointment. The chief reason they assign is, that Mr. Hayman sent in testimonials given him on former occasions, without having obtained the permission of the writers to employ them at the Rugby election, which is declared by the Head Masters of eight or nine of the chief public schools to be unusual and objectionable. As the success of the school depends almost entirely on the Head Master, and the cordial co-operation of his subordinates with him, the crisis is evidently a grave one both for Rugby and the country.

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## EXAMINATION PAPERS.

MATRICULATION EXAMINATION. LONDON, JUNE, 1869.

## ARITHMETIC AND ALGEBRA.

1. Divide 4.068 by .0018 ; and simplify the two expressions

$$\frac{4\frac{2}{3}-3\frac{1}{2}}{4\frac{2}{3}+3\frac{1}{2}} \quad \text{and} \quad \frac{2}{3} \left\{ \frac{2}{3} \text{ of } \frac{2\frac{1}{2}+1\frac{1}{2}}{3\frac{1}{2}-1} + \frac{1}{2} \right\}.$$

2. Express £4 6s. 4½d. + ¼ of a farthing as a decimal of £5.

3. A grocer mixes 3 cwt. 15 lbs. of sugar, at 14d. per lb., with 10 cwt. 10 lbs. at 4d. per lb. At what price per lb. should he sell the mixture that he may neither gain nor lose ?

4. A person having £1000, invests in the Three per Cents, at £92, and pays a broker for making the investment ½ per cent. on the whole stock purchased. After 3 years he sells at £95, and again pays a broker ½ per cent. What did he receive as interest, and what did he gain on the whole ?

5. Find the value of  $\frac{\sqrt{2+1}}{\sqrt{2-1}} + \frac{\sqrt{2-1}}{\sqrt{2+1}}$  ; and extract the square root of 32.14 to four places of decimals.

6. Divide
- $x^4 - 6x^2 + 1$
- by
- $x^2 - 2x - 1$
- ; and simplify

$$\frac{x^2 - \frac{1}{x^2}}{x + \frac{1}{x} + \frac{x^2 + 1}{x^2}} \quad \text{and} \quad \frac{x^3 - 3x + 2}{2x^3 - 3x^2 + 1}$$

7. If
- $a : b :: c :: d$
- , prove that

$$(1) \quad a + b : a - b :: c + d : c - d ;$$

$$(2) \quad \left(\frac{a}{b}\right)^2 + \left(\frac{c}{d}\right)^2 = 2 \frac{ac}{bd}.$$

8. Investigate a rule to find the sum of any arithmetical progression. If  $a, b, c, d$ , be in Arithmetical Progression, prove that

$$\frac{b^2 + d^2}{2} + a^2 + c^2 = 2(ab + cd) - bd.$$

9. There are two stations, A and B, 1760 yards distant from each other. A man starting from A at two o'clock, and walking uniformly, reaches B at half past two. Another man, starting from B at ten minutes past two, reaches A at twenty-five minutes past two. At what distance from A did the two men pass each other ?

ENGLISH HISTORY.

1. What separate races form the British people? State when each became incorporated.
2. How was Britain divided under the Romans; and how under the Saxons?
3. What departures from the modern law of succession to the Crown may be noticed between William I. and Henry VII.?
4. Sketch the coast passed by any ships of the Armada which started from Cadiz, and, after passing through the North Sea, were wrecked on the west of Scotland. Insert the names of rivers, both in Britain and on the Continent, which empty themselves into the sea along the coast, and mark mountain ranges.
5. Under what circumstances were Ireland and Scotland united to England respectively?
6. Sketch the life and reign of Edward III.
7. Name, with dates, the Sovereigns of the House of Tudor. What was the character of each?
8. State particulars, with dates, of the battles of Lincoln, Evesham, Halidown Hill, Wakefield, Carberry Hill, Newbury, Zutphen, and La Hogue.
9. Sketch the life of Sir Walter Raleigh, and of John Milton.
10. What were the following, and what connexion have they with English history?—Bretwalda; Comes Littoris Saxonici; Friborg; Dane-gelt; Monopolies; the Triumvirs; the Cabal; the Five Members; the Exclusion Bill; the Petition of Right; the Habeas Corpus Act.

FRENCH.

FIRST B.A. PASS EXAMINATION, 1869.

1. Translate into English :—

(A)

LE BONHEUR.

Mes amis ont raison, j'aurais tort en effet,  
 De me plaindre : en tous points mon bonheur est parfait.  
 J'ai trente ans, je suis libre, on m'aime assez, personne  
 Ne me hait ; ma santé, grâce au ciel ! est fort bonne ;  
 L'étude chaque jour m'offre un plaisir nouveau,  
 Et justement le temps est aujourd'hui très beau.  
 Quand j'étais malheureux, j'étais triste et maussade ;  
 J'allais au fond des bois, rêveur, le cœur malade,  
 Pleurer.—C'était pitié ! J'aimais voir l'eau couler  
 Et briller ses flots purs, et mes pleurs les troubler.



Mais maintenant je suis heureux, gai, sociable ;  
 J'ai l'œil vif et le front serein ; je suis aimable.  
 Le ruisseau peut couvrir à l'aise et murmurer ;  
 Dans son onde à l'écart je n'irai point pleurer.

Quand j'étais malheureux, souvent, lassé du monde,  
 Je m'abîmais au sein d'un extase profonde ;  
 Dans un ciel de mon choix mes sens étaient ravis :  
 Indicibles plaisirs de longs regrets suivis !

Maintenant j'ai quitté les folles rêveries ;  
 C'est pour herboriser que j'aime les prairies  
 A rêver quelque fois si je semble occupé,  
 C'est qu'un passage obscur, en lisant, m'a frappé.

Quand j'étais malheureux, je voulais aimer, vivre :  
 Maintenant je n'ai plus de temps, je fais un livre.

Vous qui savez des chants pour calmer la douleur,  
 Pour calmer la douleur ou lui prêter des charmes,  
 Quand vos chants du malheur auront tari les larmes,  
 Consolez-moi de mon bonheur.

J. J. AMPERE.

(B)

LA MER.

L'introduction naturelle, le vestibule de l'océan, qui prépare à le bien sentir, c'est le cours mélancolique des fleuves du Nord-ouest, les vastes sables du midi, ou les landes de la Bretagne. Toute personne qui va à la mer par ces voies est très frappée de la région intermédiaire qui l'annonce. Le long de ces fleuves, c'est un vague infini de joncs, d'oseraies, de plantes diverses, qui, par les degrés des eaux mêlées et peu à peu saumâtres, deviennent enfin marines. Dans les landes, c'est avant la mer une mer préalables d'herbes rudes et basses. Etant encore à une lieue, deux lieues, vous remarquez les arbres chetifs, qui annoncent à leur manière, par des attitudes, j'allais dire par des gestes étranges, la proximité du grand tyran et l'oppression de son souffle. S'ils n'étaient pris par les racines, ils fuiraient visiblement ; ils regardent vers la terre, tournent le dos à l'ennemi, semblent tout près de partir, en déroute. Ils ploient, se courbent jusqu'au sol, et ne pouvant faire mieux, fixés là, se tordent au vent des tempêtes. Ailleurs encore le tronc se fait petit et étend ses branches indéfiniment dans le sens horizontal. Bien avant de voir la mer, on étend et on devine la redoutable personne. D'abord c'est un bruit lainain, sourd, et uniforme ; peu à peu les bruits cèdent et en sont couverts. On en remarque bientôt la solennelle alternation, le retour invariable de la même note, forte et basse, qui de plus en plus gronde. Moins régulière est l'oscillation du pendule qui nous mesure l'heure. Mais ici le balancier n'a pas la monotonie des choses mécaniques. On y sent, ou croit y sentir, la vibrante intonation de la vie.

MICHELET.

## II. Translate into French :—

## THE WRECK OF THE ROYAL CHARTER, 1859.—EPISODE.

I went to bed at eleven, and lay there till I heard Captain Withers say to a lady, "I shall take your child: come directly." There was some answer to this, and Captain Withers said, "No, directly: there is no time to be lost." His voice had awakened me, and I jumped out of bed. I heard it was half-past two o'clock. I then felt the ship as if rubbing along the ground; and then there were three or four violent concussions. I immediately ran up into the upper saloon. I found ladies and gentlemen in the greatest state of consternation. Mr. Hodge, the clergyman, was there; and they all prayed together. I went up to look for my nurse and child. The saloon was so crammed that there was no chance of my being able to find my child there. I eventually found them. The bumping of the vessel continued and increased in rapidity and violence; and water began to come in in all directions; so that I was perfectly wet through for hours before I left the ship. I do not know what hour it was when I jumped overboard; but the man who saved me told me it was half-past seven. I was on deck when the vessel split. I was knocked down by the waves; and I saw Captain Taylor lying on the deck, where he had been knocked down by a wave. He had a rope round his waist, and a log tied to the end of it. I said "O Captain Taylor, what a fearful scene this is!" He did not reply. Another wave came in on me. I flung off my great coat, and jumped overboard. I got hold of a log of wood, but was washed off it twice. I was washed to the rock, and grasped the weed, but was twice washed away with weed in my hands. I was carried in a third time, and two or three men caught me by the points of the fingers, and prevented me from being carried out again. A man named Robert Lewis had me carried to his house, where I was treated with the greatest kindness by him and his wife. My little daughter, and also her nurse, were lost.

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We have received from Messrs. Macniven & Cameron of Edinburgh specimens of their pens, which they quaintly name, "Owl," "Waverley," and "Pickwick." Their peculiarity consists in the points being slightly turned up, which gives them the freedom of the quill for rapid writing, and prevents the possibility of the nibs catching in the paper. They are not, however, suitable for fine school caligraphy.

## INDIAN TELEGRAPH EXAMINATION, 1869.

## HIGHER MATHEMATICS.

1. Assuming Demoivre's Theorem, investigate the formulæ :—

$$\text{Cos. } A = 1 - \frac{a^2}{1.2} + \frac{a^4}{1.2.3.4} - \dots$$

$$\text{Sin. } A = a - \frac{a^3}{1.2.3} + \frac{a^5}{1.2.3.4.5} - \dots$$

2. A circular piece is cut out of a rectangular board ABCD, the two sides AB, AD touching the circumference of the circle, find the centre of gravity of the remaining portion.

3. In the system of pulleys in which each string is attached to the weight (W) and the strings are parallel, if P be the power,  $n$  the number of pulleys, and  $w$  the weight of each pulley; prove that  $W = (2^n - 1)(P + w) - nw$ .

4. Investigate the rectangular equation to the path of a projectile, determine the velocity at any given point, and the direction of motion at a given time.

5. Find the differential co-efficient of the functions

$$1. \ n = x^4 - 5 \log. \sqrt[5]{(1+x^4)}.$$

$$2. \ n = \sqrt{\sin. (x+a) \sin. (x-a)}$$

$$3. \ n = \tan^{-1} \frac{3x-x^3}{1-3x^2}$$

6. Expand  $\text{Sin. }^{-1}x$  by Maclaurin's Theorem to 4 terms.

7. Integrate  $\frac{dx}{1+x+x^2}$ , and  $\frac{dx}{x^2(x+1)(x+2)}$

8. Determine by integration the solid contents of a spherical segment.

9. One of the roots of  $x^4 - 6x^3 + 13x^2 - 18x + 30 = 0$  is  $3 + \sqrt{-1}$ , find the other roots.

10. Expand by the Binomial Theorem  $(a^2 - 2a^3)^6$ ; and write down the 7th term of  $\frac{1}{\sqrt[3]{(1-x^2)}}$  expanded.

11. Find the number of different ways in which 10 men can be drawn up in double rank, supposing 3 particular men always to be in the front, and 3 others in the rear.

12. The difference between 2 nos. is 48, and the arithmetic mean exceeds the geometric by 18. Find nos.

13. In the parabola, the perpendicular from the focus on the tangent at any point intersects it in the tangent at the vertex. Hence prove that the circle described upon any radius vector touches the tangent at the vertex.

14. Prove that perpendiculars from either focus of an ellipse intersect any tangent in the circumference of the circle, described upon the major axis as diameter.

**SOLUTIONS OF QUESTIONS IN TODHUNTER'S TRIGONOMETRY FOR BEGINNERS. Ex. III.**

*C. from N. 2, "Assistant Masters' Journal."*

Find A from the following equations:—

1.  $3 \sin. A = 2 \cos.^3 A = 2(1 - \sin.^2 A) = 2 - 2 \sin.^2 A$   
 $2 \sin.^2 A + 3 \sin. A = 2.$

$$\sin.^2 A + \frac{3}{2} \sin. A = 1$$

$$\sin.^2 A + \frac{3}{2} \sin. A + \frac{9}{16} = 1 + \frac{9}{16} = \frac{25}{16}$$

$$\sin. A + \frac{3}{4} = \sqrt{\frac{25}{16}} = \frac{5}{4}$$

$$\sin. A = \frac{5}{4} - \frac{3}{4} = \frac{2}{4} = \frac{1}{2} \therefore (28) A = 30^\circ$$

2.  $\sec. A \tan. A = 2 \sqrt{3}$ . Squaring both sides :  
 $\sec.^2 A \tan.^2 A = 12$ .  $\sec.^2 A = 1 + \tan.^2 A$  (23).

$$(1 + \tan.^2 A) \tan.^2 A = 12. \left( 1 + \frac{\sin.^2 A}{\cos.^2 A} \right) \tan.^2 A = 12 =$$

$$= \left( \frac{\cos.^2 A + \sin.^2 A}{\cos.^2 A} \right) \frac{\sin.^2 A}{\cos.^2 A} = 12$$

$$\text{i.e. } \frac{1}{\cos.^2 A} \times \frac{\sin.^2 A}{\cos.^2 A} = 12 = \frac{\sin.^2 A}{\cos.^4 A} = 12 = \sin.^2 A = 12 \cos.^4 A$$

$$= \sin.^2 A = 12 (1 - \sin.^2 A) (1 - \sin.^2 A) = 12(1 - 2 \sin.^2 A + \sin.^4 A)$$

$$= 12 - 24 \sin.^2 A + 12 \sin.^4 A.$$

$$\text{i.e. } 12 \sin.^4 A - 24 \sin.^2 A - \sin.^2 A = -12$$

$$\sin.^4 A - \frac{25}{12} \sin.^2 A = -1$$

$$\sin.^4 A - \frac{25}{12} \sin.^2 A + \left( \frac{25}{24} \right)^2 = -1 + \frac{625}{576} = \frac{49}{576}$$

$$\sin.^2 A - \frac{25}{24} = -\frac{7}{24}$$

$$\sin.^2 A = -\frac{7}{24} + \frac{25}{24} = \frac{18}{24} = \frac{3}{4}$$

$$\sin. A = \frac{\sqrt{3}}{2} \therefore A = 60^\circ. (28). \quad \dot{\}$$

3.  $\sec.^2 A - \frac{5}{2} \sec. A + 1 = 0 = \sec.^2 A - \frac{5}{2} \sec. A - 1$

$$= \sec.^2 A - \frac{5}{2} \sec. A + \left( \frac{5}{4} \right)^2 = -1 + \frac{25}{16} = \frac{9}{16}$$

$$\sec. A - \frac{5}{4} = \frac{3}{4}$$

$$\sec. A = \frac{3}{4} + \frac{5}{4} = 2 \therefore A = 60^\circ (28)$$

$$\begin{aligned}
 & 4. \quad 6 \cot^2 A - 4 \cos^2 A = 1 \\
 & \frac{6 \cos^2 A}{\sin^2 A} - 4 \cos^2 A = 1 \quad = 6 \cos^2 A - 4 \sin^2 A \quad \cos^2 A = \sin^2 A \\
 & = 6 \cos^2 A - 4 \cos^2 A (1 - \cos^2 A) = 1 - \cos^2 A \\
 & 6 \cos^2 A - 4 \cos^2 A + 4 \cos^4 A = 1 - \cos^2 A \\
 & 3 \cos^2 A + 4 \cos^4 A = 1 \\
 & \cos^4 A + \frac{3}{4} \cos^2 A = \frac{1}{4} \\
 & \cos^4 A + \frac{3}{4} \cos^2 A + \frac{9}{64} = \frac{1}{4} + \frac{9}{64} \quad \frac{25}{64} \\
 & \cos^2 A + \frac{3}{8} = \frac{5}{8} \\
 & \cos^2 A = \frac{5}{8} - \frac{3}{8} = \frac{2}{8} = \frac{1}{4} \\
 & \therefore \cos A = \frac{1}{2} \quad \therefore A = 60^\circ (28).
 \end{aligned}$$

*To be continued.*

ALGEBRA, at Matriculation Exam. London, June, 1869.

$$\text{Solve (1)} \quad \frac{11x+13}{24} - \frac{3x+2}{5} + x = \frac{4x+7}{11}$$

and also

$$(2) \quad \begin{cases} 2x+3y=10 \\ 8x-7y=2 \end{cases}$$

$$\begin{aligned}
 & (1) \quad \text{G.C.M. } 11 \cdot 5 \cdot 24 = 1320; \text{ then we have by multiplying} \\
 & (605x+715) - (792x+528) + 1320x = 480x+840 \\
 & = 605x+715-792x-528+1320x = 480x+840 \\
 & 605x+1320x-792x-480x = 840+528-715 \\
 & 1925x-1272x = 1368-715 \\
 & 653x = 653 \\
 & \therefore x = 1.
 \end{aligned}$$

$$\begin{aligned}
 & (2) \quad \begin{cases} (a) \quad 2x+3y=10 \\ (b) \quad 8x-7y=2 \end{cases} \text{ multiplying by } \begin{matrix} 7 \\ 3 \end{matrix} \text{ then we have} \\
 & \begin{cases} (a) \quad 14x+21y=70 \\ (b) \quad 24x-21y=6 \end{cases} \text{ adding—} \\
 & \begin{array}{r} 14x+21y=70 \\ 24x-21y=6 \\ \hline 38x \quad \quad = 76 \\ x \quad \quad = 2 \end{array}
 \end{aligned}$$

$$\begin{aligned}
 & (a) \quad 2x+3y=10 \\
 & 4+3y=10 \\
 & 3y=10-4=6 \\
 & y=2.
 \end{aligned}$$



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NATIONAL EDUCATION.

- A**LTHOUGH a discussion of the Government measure on Primary Education must necessarily prove an interesting topic to our readers, we are at the present moment unable to criticise as we could wish. It is morally certain that the Bill will undergo extensive alterations during its passage through Committee. We shall, therefore, confine our remarks to a sketch of the Bill, and the consideration of the grounds upon which the opposers of it rest their arguments. The measure consists of no less than eighty-eight clauses, and four schedules. Clause 5 provides for the required amount of school accommodation throughout the country. These schools shall be conducted by a school board (14), and shall be open at all times to inspection (7). "Every child attending a school provided by any school board shall pay such weekly fee as may be prescribed by the school board," &c. Under certain-specified circumstances, such as poverty, children may be admitted free (17). If, however, the district be poor, and the school board judging it expedient, a school may be provided at which no fees at all are required (25). Attendance at school is provided for by Clause 66, which states that "Every school board may, subject to the approval of the Department, make bye-laws for the
- "(1). Requiring the parents of children above the age of five years, and under the age of twelve, to cause such children (unless there is some reasonable excuse) to attend school.
  - "(2). Determining the time during which children are so to attend school; providing that no such bye-law shall be contrary to anything contained in an Act for regulating the education of children employed in labour:
  - "(3). Providing for the remission of the whole or part of the fees, &c.
  - "(4). Imposing penalties for the breach of any bye-law.
  - "(5). Revoking or altering any bye-laws previously made."

The clause then states that illness, or any unavoidable cause, or dwelling at a distance of more than one mile from the school, shall be deemed reasonable excuse. The penalty for the breach of any bye-law

cannot exceed *five* shillings. It will be seen that the Bill leaves it optional with the boards to compel or not the attendance of the children; and it really seems more satisfactory that the local authorities—who ought to be well acquainted with the peculiarities of their several districts—should enforce this clause. But we must pass on to that point in the Bill which has encountered the greatest opposition. It is passing strange that religion, which is calculated to put an end to strife, should however, whenever, and wherever it is mentioned, cause the most intense and bitter animosities and bickerings. Clause 7 provides that “Every public elementary school within the meaning of this Act shall be subject to the following regulations, namely:—(1). The school shall be open at all times to the inspection of any of Her Majesty’s Inspectors; so, however, that no such inspector, except with the permission of the Education Department, and on the request of the managers of the school, shall inquire into the religious instruction given at such school, or examine any scholar therein in religious knowledge or in any religious subject or book. (2). The school shall be conducted in accordance with the conditions required to be fulfilled by an elementary school in order to obtain an annual Parliamentary grant. (3). That no scholar shall be required, as a condition of being admitted into, or of attending, or of enjoying all the benefits of the school, to attend or to abstain from attending any Sunday school, or any place of religious worship, or to learn any such catechism or religious formulary, or be present at any such lesson or instruction or observance as may have been objected to on religious grounds by the parent of the scholar sending his objection in writing to the managers or principal teacher of the school, or one of them.”

It is against this clause that the most violent opposition has been directed. The objections come, as might be expected, from the Nonconformists. Their ultimate aim is to get a system of secular education *pur et simple*. In the last issue of this journal we stated our entire concurrence in the abolition of the teaching in our schools of creeds or catechisms, and hinted at the pleasure it would give us to see the Government bring in a thoroughly undenominational Bill. The conscience clause embodied in this 7th clause answers our every expectation—in fact it is the death-knell to the teaching of sectarian creeds. But we do not, we cannot advocate that the grand old English Bible should cease to be a school book, that its contents should cease to be taught, and that it should be hurled into oblivion without the slightest sign of compunction. The different ideas regarding religious teaching in primary schools may be arranged under three heads—

1. Entirely and absolutely separate.
2. Taught, but by the various ministers at different hours.
3. Taught as any other subject of school routine.

A fourth, viz., denominational teaching as now in existence might be added, but we forbear dwelling upon it, as, according to the signs of the times, its end has come. Let us for a moment see if we cannot all agree upon some one axiom. It is granted, without any dissent, that a knowledge of the truths contained in the Bible does conduce, and in no

small degree, to man's welfare. Just as unanimous, also, are we "that by some means or other these truths should be taught to the young." If therefore religious teaching is to be abolished in our schools, some provision must be made to impart this knowledge elsewhere. Leave it to Sunday schools and parents, say advocates of No. 1. But unfortunately it is a well known fact, that many day scholars do not attend the Sunday schools. Should attendance here also be made compulsory? Again, no less true is it that the parents *do* not, perhaps *cannot*, teach these truths; and so we are thrown on the horns of a dilemma from whence there is no escape. It is all very well to say that when the parents are educated they will then educate their children. True; but what is to become of such as are children *now*, and have not educated parents? The upholders of No. 2 try to escape from this fearful dilemma by allowing the use of the school to the different ministers for the special purpose of teaching dogmas. The peculiar failures of this plan are too palpable to require any lengthened notice. Suppose, for instance, we have a village, containing one school, but *six* sects; each minister, of course, might have *one* day to himself, but we opine that the amount of religious knowledge taught would be small if it was only taught *one hour* per week. Lastly, we come to the most feasible, and the only practicable plan, unless we ignore religion altogether, and no one is ready to do this. What do the Nonconformists say?—"We don't object to Bible reading; what we do object to is denominational teaching in addition to it, and denominational teaching of the worst and most pernicious kind. The 'religious difficulty' does not originate with us; it originates with the Established Church. We want no sectarian privileges; we do not want the smallest recognition by the State of any one of our denominations. If they cannot maintain their ground without such a support as the State can afford to give them, our opinion is that they had better sink, and that the sooner they sink the better still. We require no State buttresses for our creeds or our principles. Why should the Church of England require them,"\* &c. Will not every unbiassed mind pronounce this to be a begging of the question? The Bill provides for the exclusion of creeds and the simple reading of the Bible; the opponents wish for the reading of the Bible, yet oppose the measure. The great bugbear is this, that a few people will not, if the present clause is carried, be allowed to force their opinions upon the majority. Why, in a parish of 500 families, consisting of—say 350 of Churchmen, and 150 of Dissenters—why, we ask, should the majority be forced to give up their opinions in order to please a whimsical minority? There is, however, a still greater and more weighty reason, one which has not yet been mooted, but will, we believe, be corroborated by every national schoolmaster. It is this, that dogmatic teaching—supposing the catechism to be expunged—never has been, and never will be, taught by national schoolmasters by means of scripture lessons. Where are these hundreds and thousands of men who are yearly trained in our normal colleges? Why have they not come forward to state their views? Base calumnies

\* The *Nonconformist*, March 16, 1870.



have been uttered, opprobrious epithets have been spoken, and yet they seem to retain an apathy at once useless and ridiculous. Day after day we are told sectarian dogmas will be taught by means of scripture lessons. We do not deny that they can be, or if left to ministers will be, but schoolmasters have nothing to do with dogmas, and the mere utterance of such fallacies proves that the debaters know nothing of what they are speaking. For the edification of some of these gentlemen we give a sketch of what a Bible lesson is. Suppose the subject of the lesson to be "The Good Samaritan." The master would narrate how the man journeyed, depicting the difference between Palestine and England, how unfortunately he fell among thieves, and how those particular persons, whose duty it was to help and succour him, passed quickly by, without rendering the slightest aid, whilst ultimately an enemy, or one who was generally regarded as an enemy, gave the assistance so much needed. If this description were well rendered, the children would be able to deduce some plain truths and lessons from it, such as, for example, that beautiful Christian dogma, "Love your enemies."

There would be no sectarian teaching here. It has been stated that such a system as this could not be carried out; that vicars and rectors of rural parishes would be all-powerful over the master, and compel him to teach certain dogmas peculiar to the Church. Supposing this to be the case—although it is insinuating that schoolmasters have little or no conscience—it could apply to but a few parishes, whilst the bulk of the population would get their religious education without any heart-burnings. We must now close these remarks; not that our subject is exhausted—far from it—but because our space is limited. Once more, then, we state that whilst forbidding the teaching of any sectarian creed, we would still have the truths of the Bible taught in our schools. Before another issue of this journal reaches the public, a Bill will have become law, and we shall then be able to criticise the measure as a whole.

H. W. B.

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### NATURAL PHILOSOPHY.

1. Show how to find the Resultant of three given forces acting on a point; and prove that, to produce equilibrium, their directions must lie in the same plane.

2. Find the ratio of the power to the weight for equilibrium on a bent lever of the first kind, when the forces act at right angles to the arms. Supposing the arms make an angle of  $120^\circ$  with each other, and have the relative lengths 1 and 5, find the magnitude and point of application of the resultant of the power and weight when the lever is in equilibrium.

3. Two heavy particles, weighing respectively 3 and 5 ounces, are attached to the ends of a straight rod 8 inches long, weighing 2 ounces. Find the centre of gravity of the system.

4. A body of given mass is acted upon by a constant force. Find the space described in a given time.

If a particle move from rest through 40.5 feet in  $4\frac{1}{2}$  seconds, under the action of a constant force, find the acceleration.

## SHORT ESSAYS ON POPULAR NOTIONS OF EDUCATION.

## III.—ON THE ABOLITION OF HOLIDAYS.

**I**N our last essay (August, 1869), we suggested some questions as to the utilitarian theory of education, and especially the popular idea of a sound English training, such as will be useful in after-life. We attempted, though very briefly and imperfectly, to show that the theory would scarcely bear examination, that the subjects which its supporters would be ready to welcome and make much of, were not really more useful or practical than the older studies, now supposed to be deservedly passing away. A knowledge of English will no more enable a man to "succeed in life" than a knowledge of Greek. Shakspeare will be of no more "use" behind a counter than Æschylus. Botany will be as impractical in a counting-house as Euclid. French conversation will in the ordinary course of things be as little profitable in the farm-yard as Latin verse composition. It is scarcely necessary to make an exception even in favour of reading, writing, and the more mechanical parts of arithmetic. For, while these are undoubtedly useful, and frequently necessary, still, we suppose it is quite possible for a man to make his fortune without knowing much even of them; and many of the advocates of a "sound" and "useful" education would probably desire to include in their schemes much more than these; and the more they included, the more they aimed at including intellectual training, without excluding usefulness, the more they would lay themselves open to the objections we have stated; and while we say this, we do not at all deny that it is possible for education to be too exclusively intellectual, or, at any rate, for practical usefulness to be too little regarded. This may, perhaps, be possible, and yet it may also be in vain to try to construct a really liberal scheme of education entirely on a basis of practical usefulness.

If we were attempting a complete and regular treatise, we ought next to speak of one or two other theories of the end and aim of education, somewhat similar to the former, but which would suggest new questions, and might be looked at from other points of view. But as we profess to be writing essays only, we may claim the privilege of essayists, and break the regular sequence of subjects in order to say a few words upon a matter which has lately roused some little interest, and which may be expected to "crop out" from time to time, taking its turn, with other stock subjects of *Paterfamilias*, who complains to the *Times*, and *Bestius*, who writes in Sunday newspapers.

The abolition—or what comes to the same thing in principle—the cutting short of holidays, is the particular point which we now intend to consider. If the opinion that this change ought to be made cannot exactly be called a notion about education, it at all events rests upon and implies some very curious and instructive notions, and is in itself well worthy of some attention from those particularly concerned with education.

It would seem, then, that the change demanded by the anti-vacationists (if we may use the word) might be supported on two different grounds. It might be urged that holidays are a fraud practised upon parents, who pay for the education of their children, and, therefore, have a right to get rid of them completely while the process is going on, that the whole of the teacher's time is paid for, and that any portion of it which is not given is unfairly, if not fraudulently, withheld. Secondly, it might be said that holidays are injurious to the children themselves—that they encourage idleness, or cause all that is learned at school to be forgotten. It is even stated, without any appearance of irony, that boys themselves do not like holidays, and would much rather be at school than at home.

Now, with regard to the first ground of complaint, we would ask this question: When a man sends his son to school, does he this with the understanding, express or implied, that there shall be no holidays? Or, on the other hand, does he understand perfectly that there *will* be holidays? And is the payment which he makes calculated on the one or on the other supposition? According to the answer given to this question, must the other question also be answered, whether holidays are a fraud upon the parents or not? Whether they “pay for the teacher's holidays?” Would it not rather appear that the payment is made, not for the whole year, but for that part of it which it is understood will be occupied in teaching? If so, what cause for complaint is there? If the teacher gives as much of his time as it was understood on both sides that he undertook to give, why need he be expected to give more? If it should be objected that sometimes the holidays are longer than was expected—that they are increased by the addition of extra weeks granted for very slight causes—it may be asked again—is it worth while saying anything at all upon a merely occasional and exceptional matter—that whether the parent is not aware, at the time when he sends his son to school, and agrees to pay a certain sum for his schooling, that there is a power reserved of occasionally making the holidays a little longer than usual? Unless it is clearly stated that the vacation is not to exceed a certain time, there would appear to be some difficulty in sustaining a charge founded upon such slight occasional additions. It is possible, of course, that the thing might be carried so far as to be unreasonable, but surely if a teacher really refuse to give the time, or the board and lodging, which he has undertaken to give, there would be a remedy in law for this as for other breaches of contract.

A totally different question is this—whether, allowing that the vacation is an understood thing, and that the payment to the teacher is made for a part of the year only and not for the whole of it, whether that payment is excessive or not. And of course nothing can be more natural or proper than for a man who thinks that he is paying too much in proportion to the time, to agitate for the lowering of the payment or for the lengthening of the time. This is just as proper as it is to write letters to the newspapers about the price of meat. We do not know whether it is of much use; but at any rate there is no harm in it. It is only, in fact, putting in force the law of supply and demand which we

suppose must in the end regulate the supply of knowledge and of morality as that of bread and beef. There may, indeed, be something of the 'popular notion' worth looking at, in this measurement of education by the mere length of time spent at school. And doubts may be raised as to the accuracy of so very rough and ready a school of estimation. Still, by all means let the aggrieved parents make their demand. If the supply, by the laws of economy ought to follow, we suppose it will follow. If a cheaper article can be got, they can get it, if they keep up the cry long enough and loud enough. But do not let them confound two quite different things. Let them not suppose they are paying for the time during which their children are at home. Whether they pay too much or too little, or just enough, they pay for the time agreed upon, expressly or implicitly, and for no more.

But the second ground on which holidays are or may be objected to, is the supposed injury which they do to the boys who are allowed them. And this perhaps is the more suggestive and more important part of the question. And so far as this objection is really and seriously made, it *seems* to imply some ideas as to education in general, which are well worthy of a place among our popular notions.

It would seem then, that not only can education be estimated by a measure of length, like so much tape, but the only possible education is school education. The natural and normal place for a boy is (it would appear) a boarding school. All belief in the good influence of home and family is a delusion. Boys have no business at home; they do not like it themselves, and they are a nuisance to everyone else. Parents ought to see and know as little as possible of their sons, and sons of their parents. We heard something lately about abolishing sisters-in-law; but on the theory we are considering, as far as school boys are concerned, fathers, mothers, and sisters, should all be abolished at one fell swoop—and brothers, if allowed to exist at all, should be little more than school-fellows. In fact, home and family are to be forgotten as obsolete superstitions. The abolition of holidays means the abolition of home, and the substitution of a sort of barrack life.

Now, we are not going to say positively that the anti-vacation theory, thus stated, is absolutely false, that such a system would be utterly wrong. It will certainly be very unattractive to many people, both children and parents, and on the whole perhaps the English people are not yet ripe for it. Besides its soundness may at least be questioned. It may be doubted how far and how long it would be possible to keep up anything like social or national virtue, or strength—to prevent the decay of morals and the decline of vigour, and escape the corruption of manners if such a theory were generally adopted and acted upon. At any rate the change proposed is not one to be made or accepted rashly. And we may be at least allowed to suggest the question, whether a totally different view of the subject is not, after all, a better and healthier one.

May there not then, after all, be some good in the old ideas about home-life, about parental care, about the family as constituting the foundation of the social structure? Suppose that, as far as possible, children ought to be brought up at home, with their brothers and sisters, and under the eyes

of their father and mother ; that most children are more likely to turn out well by being brought up at home. And that on the whole, this is the normal state of things, the object to be kept in view, that they shall be at home not as little, but as much as possible, that they shall be as much with their parents as they can be consistently with the discharge of the duties of active life on the part of the parents, and the preparation for those duties on the part of the children. Suppose that after all, whatever be the length or shortness of the stay at home and of the absence from it, home should still be the rule, and absence the exception ; that sons should not be strangers in their fathers' house—should scarcely even be guests—but should feel in their own proper place there more than anywhere else—should feel it more natural, proper, and pleasant to be there than to be anywhere else. Suppose that even as things are,—and we admit that they may not always be as they ought to be—still on the whole that many boys at least are capable of getting more good there than elsewhere, and that if more boys were as they ought to be, and more parents as they ought to be, the rule would be still more universal, and the exceptions fewer than they are. Candidly, the supposition of its being even possible for a boy to be under better influence—to get more good—at another place than at his father's house, is itself a bad sign, a thing to be avoided, an indication that there is something utterly wrong somewhere. We need not continue our suppositions. Let the possibility of their correctness be at all admitted, and the question of holidays or no holidays will at once assume quite a new aspect.

Of course, in practice, there may be occasional or exceptional difficulties or exceptions. The really best system may not always be easy, pleasant, or even always possible to carry out at once and completely. It is quite possible that there may be parents to whom their sons are simply a nuisance. Perhaps they themselves have not authority or firmness to govern their own families, or have not intelligence to instruct them, or moral influence to control them. Or the boys themselves may be hopelessly bad, or if not bad, desperately stupid or foolish. They may not have learned obedience, truthfulness or decency. They may not have had their minds so cultivated as to enable them to find occupation for themselves when the stress of school routine is relaxed. And so they may be in the way wherever they are, and may take to 'loafing' as we are informed they sometimes do.

But even here questions suggest themselves as to what ought to be done. It does not necessarily follow that the proper remedy is the abolition of holidays. Even for these boys themselves, much less for others who do not deserve, or whose parents do not deserve what to them would be a real privation. Where indeed, the fault is on the parents' side, or where there is no fault but only misfortune, then it may be conceived that in some cases, after all, holidays may really be of no use, and the best thing for a boy may be to go back to school. But might not again, the parent improve himself and amend his own faults, and so make his own house and his own society more improving for his children ? Or where the fault is in the boys themselves, is it really to be cured by merely sending them back to school ? Will it do the

parents any good, beyond the mere temporary relief from annoyance—will it do the boys any good whatever to put off that difficulty in this way? We do not say that one and the same answer must in all cases be given to these questions. It is quite possible, amid the endless varieties of human character and circumstance, that boys may sometimes really be receiving benefit at school which they could not receive at home. But should not such cases be regarded as exceptional, and when one occurs should not any course of action which it compels, be submitted to as a painful necessity, rather than looked upon as an example to be followed, as a rule to be extended to all cases?

For not to speak of the injustice of making the worse a rule for the better—for making the less satisfactory relations between parent and child a rule for the more satisfactory—is it by any means certain, even in the worst cases, especially when the fault is more in the children than in their parents, that the right way to treat it is to shorten the holidays and keep the scapegraces constantly at school? Is it not rather likely, that, if a boy is intolerable at home, he has been learning no good, but rather evil, in his school life? Of what use, let us ask, has school been to him if it has not taught him to be dutiful, to behave decently, to abstain from offensive language and habits, to speak the truth, to respect his parents, to be good-tempered and gentle to his younger brothers and sisters, and, moreover, given him such mental cultivation as to make him a welcome companion to his friends, and to afford him such resources for occupation and amusement as to make it unnecessary for him to loaf about the house and wish the holidays were over? And has his course of study been of much use to him, if it is possible for him to forget in the course of a few weeks' vacation all that he has learned at school? One would think it hardly worth while to teach or to learn what is so very easily forgotten. Would not the more natural conclusion in such circumstances be, *not* to send him back to a place where he has received no moral training to make his presence at home welcome and desirable, and no intellectual discipline to enable him to find rational employment for himself, and not even any mere mechanical knowledge which he does not forget as soon as the continual repetition of his tasks is broken off for a time? Where, for such reasons, so unfortunate a state of things *does* exist, that parents and even children look forward with pleasure to the time of separation—the parents eager to get rid of their children even by sending them to a place where they are learning nothing and doing no good, and the children to be among strangers rather than with their own parents—might it not be well for a father to consider whether he had not better send his son to the plough, or put him into a warehouse, or make him cabin-boy on board an Australian clipper, or get him an appointment on the West Coast of Africa, rather than continue a course of action which has turned out so unsuccessful?

Even supposing, therefore, the existence of a state of things such as we have described, it is still doubtful whether the reduction or abolition of holidays would be the right measure to adopt in reference to it. But does it generally exist? And, still more, is it to be regarded as right and natural that it should exist? Should it be accepted as good, or as

inevitable, and our arrangements be made in accordance with it, or should it be regarded as wrong and unnatural, and our efforts be directed to alter and amend it?

Without giving any positive opinion, let us be allowed to suppose that this, or something like this, may be the right view of the subject. That school should be a supplement to home, and not home a mere temporary relief from school; that home influence, home training, should be the foundation on which all other education is supported. On such a supposition as this, the question will assume quite a new character. It will still remain open to enquire what length of time is best for school and holidays respectively; and very probably the same length of time would not be the best in all cases, so that any actual arrangement would be in some sort a compromise. But at any rate home would be regarded as equally important with school, and holidays would cease to be regarded as a necessary or unnecessary evil—as an injury to children or an imposition upon parents.

Beyond the moral and social influence for good which surely may be better afforded in a really well ordered family than anywhere else—beyond the benefit resulting from the mere fact of living among those who most care for one, and for whom one cares most, or ought to care most—surely there need be no lack of employment for a rational being at home, wherever that home may be. And surely also there is much very well worth doing and worth learning which can be done and learned better out of school than in school, or which cannot be learned in school at all. The garden and the workshop are not to be despised even when compared with the class-room and the playground. It is worth knowing how to dig and hoe, or how to saw and plane. It is worth learning how to ride and to drive, and to cast a fly, or how to measure a field or to cut down a tree. It is no idleness to try to get up botany in the lanes, or geology in the quarry. Even the boy who has explored the roads in his native parish and the neighbourhood, and can make a map of them, may know more of geography than if he had learned the lengths of all the outlandish rivers from Duina to Wairoa, and the names of all the capitals from Bangkok to Asunción. And then what an opportunity a boy has for reading during a good long vacation; of reading according to his own tastes, of studying his favourite subjects, of making himself acquainted with the literature of the day, or even with much of the literature of former days, in a manner in which he could scarcely do so from any formal lectures or lessons at school. From his father's library, or from the nearest public library to which he can get access, he may gain something in the way of knowledge, and much in the way of mental cultivation, which even a very perfect and well arranged school-course could not be expected to supply to him. Think of the difference between reading for amusement, and merely learning set lessons, or listening to regular lectures—between studying as a task and a duty, and reading what one likes, and because one likes it. Of course, this, like other things, may be abused, or misused; but that is no reason why its advantages should be undervalued.

But further, it ought to be pleasant and profitable both for father

and son, that the son should see something of his father's occupations, and even, perhaps, occasionally assist in them; a few hours would be well spent in the study, or the country-house, or the hay-field. And if it would be well for the son to take part in his father's employments, would it not also be well for the father to take part in those of his son? to go back sometimes to those studies and those amusements which were his own when he was a boy, and in which he may give his children the help and benefit of his own experience, and himself, perhaps, in some sort, seem to grow young again in joining in the employments and pleasures of youth? And, again, may not a really good English school-boy be a good companion to his younger brothers and sisters? May it not be well for them to be released sometimes from the routine of the nursery, and the school-room, and learn from one who may be an important person in their eyes, how to play, or to read, or to work?

We have suggested some questions on the subject of holidays—some doubts whether even long holidays are necessarily bad, some ways in which holidays may possibly be employed to advantage. We do not wish to give any definite opinion of our own—we are willing to be regarded merely as giving suggestions. On the further question, *how* long holidays should be, we shall not even attempt to suggest anything. Much must depend upon circumstances. And one great distinction must be allowed between day-schools and boarding-schools. It is evident that in the former the need for holidays is not so great as in the latter, though, even in the former, we are far from allowing that they ought, of necessity, to be few or short.

At any rate, while so much is being done in the way of multiplying schools, and getting children sent to school, let us not forget that something may also be said in favour of home. At least, let us not abolish home altogether, unless we are quite sure that we have something better to put in its place.

J. C. V.

## NATURAL PHILOSOPHY.

5. If two liquids that do not mix, meet in a bent tube, open at both ends, show that, when at rest, their heights above the common surface of contact are inversely proportional to their specific gravities.

The specific gravity of mercury is 13.6, and the height of the mercurial barometer is 30 inches. What is the greatest height to which water can be raised by means of the common pump?

6. Describe and explain the construction and action of the double-barrelled air-pump.

7. State and explain the effect of rarefying or compressing the air in which a bell is rung, upon the loudness of the resulting sound.

8. A straight rod is immersed in water, at an angle of  $45^\circ$ , and its lower extremity is at a depth of 6 feet below the surface. Find the apparent position and length of the image of the immersed part.

[Index of refraction of water =  $\frac{4}{3}$ .]



## NOTES ON HOMER'S ODYSSEY, BOOK XI.\*

FOR MATRICULATION, LONDON, JUNE, 1870.



OUR space will permit us to say here but a few words to students upon this subject. We advise them to read carefully Chapter V. in MESSRS. BLACKWOODS' ODYSSEY FOR ENGLISH READERS, 2s. 6d.; also, if possible, to read WORSLEY'S translation of the Odyssey, published by the same firm. This last book is dear, but may be obtained in any good lending library. Every student should carefully write out an epitomised life of the various personages mentioned in the particular book he has to study, and draw a map, marking in all places mentioned.—(ED.)

I SHALL take up only a portion of the 11th Book to translate and analyse. It will be well for the student to master the whole, and most easily done, section by section—not too much at one time. Consult for the proper names, Dr. Smith's, or some good classical dictionary. Have Jelf's Grammar by your side, for unusual forms, &c., and master these. By the time you have gone over all we take up in this way, you will find that the book is nearly mastered. It is one of the finest in the Odyssey, and worth a great deal of labour and study for its beauties, and needs both to be able to appreciate them. There is shown, in many of the passages, fine, tender feeling; men felt then as they feel now—deeply and tenderly; and Homer is a master in his art. The descent into hell, in this book, may be compared with Virgil's in his sixth book, and with that of another Italian (DANTE), whose Inferno can be had in an English dress.

"But when we came down to the ship and to the sea, we, first having drawn the ship into the vast sea, set up the mast and sails in the dark ship; then, having seized the sheep, we placed on board; and also we ourselves embark in sadness, shedding the fresh tear. And Kirké, the fair-haired skilful singing goddess, sent a moist, sail-filling, favourable wind, attendant good, to us anew, behind our dark-prowed ship. But having laboured (righted) at each cord, we sat down in the ship. And her the wind and steersman guideth. The sails were stretched, while she all through the day the sea was passing over. The sun set, and all our path was darkened. But she was come into the limits of deep-flowing ocean, where both the district and the city of Kimmerian men are hid in mist and cloud. Nor ever on them, with his rays, looks down Phæthon sun, neither when he goes towards the starry heaven, nor when again to earth he turns from heaven, but baleful night is stretched upon these fearful men. Thither, having come, we moored the ship (*ἐκλίσσμεν*, is "bring to port,") and carried forth the sheep. And we ourselves (*ἄντροι*, in nom.) again went along beside the stream of ocean, until we came into the country of which Kirké spake."

Line 1. *αὐτὰρ* = sed; *ἐπει* = after; *ἐπὶ νηα*, as far as—observe the declension of *ναῦς*, *νέως*, *νῆϊ*, *ναῦν*, Attic, but *νηα*, Ionic and poetic. There is no "dark ship" till the third line.

*κατ' ἄρουρα* 1st per. pl., aor. 2. *κατὰ*, shews direction; *ἄνα*, is opposed o.

*ἐρύσσαμεν*, 1st per. pl., aor. 1st of *ἐρύω*, I draw. *σ* is doubled.

\* Based upon Edginton's translation, (Longmans.)

- ἢ δ' ἰσθὺν τιθέμεσθα—*iv* is to be considered in compos. *τιθέμεσθα*, 1st per. pl. pres., with *σ* before *θα* and “*ι*” long takes acc. and dative, *ῆϊ μολαινῇ* by *iv*.
- iv*.....*λαβόντες*, *ἔβησαμεν* is equal to, we seized and placed, when part resolved. *iv* is in composition with *ἔβησαμεν*, aor. 2. Pl. first of *βαίνα*, *βήσομαι*.
4. *ἄν* δὲ.....*βαίνομεν*. *ἄν* is not particle condition, would not stand first in its clause, nor compound of *ἄν* = *εἰάν*, which begins sentence; but is *ἀνὰ*, joined to *βαίνομεν*, go up, embark; simple *βαίνον* means to walk; compound, embark; or of an expedition up from sea.
- θαλερὸν*.....*χέοντες*. *θαλερὸς* is adj. 1st and 2nd, and is fresh. *κατὰ* joined to *χέοντες* part of *χέω*—*χεύσω*, flow.
6. *ἡμῖν* δ' αὖ.....*νὸς*. *νὸς* is poetic gen. of *ναῦς*. *κυανοπέρωριον*, Ion. gen., and means dark-prowed.
7. *ἔκμενον οὖρον* *ἴει* *πλησίσιον*. *ἔκμενον*, note well, is not *ἐκμένον* from *ἐκνεομαι*, but unspirated from *ἐκμάς* *ἄδος*, moisture. Edginton slips it, and paraphrases the line. *οὖρον*, acc. of *οὖρος*-ου, ventus secundus. The adjective modifies, and is *ὁ*—*πλησίσιον*, sail-filling, adj. acc. *ὁ*. Its composition tells meaning. *πιμπλημι*—*πλήσω*, I fill. *ἴει* is 3rd sing. imper. for *ἴην* of *ἴεω*, I send; same as *ἴημι*. *ἔσθλὸν* *ἔταίρον*, acc. of apposition.
8. *εὐπλόκαμος*—*ὁ*—*ῆ*, fair-haired.  
*δεινὴ θεὸς ἀνδρείεσσα*. *δεινὴ*, nom. fem. of *δεινός*-ῆ-ον, terrible; but excelling in anything, one to be feared because of excellence, often followed by infin., skilful. *θεός* is *ῆ*, *αὐδήςεσσα*—*ῆ*, of *αὐδήςεις*—*εσσα*—*εν*, speaking as a mortal.
9. *ὄπλ' ἔκαστα*. *ὄπλον*-ου-το, arms, or instruments of any kind. *ἔκαστα*, each, singly, till over all.  
*πονησάμενοι*, aor. 1st nom. of part., from *πονέω*—*ήσω*, I labour; from *πένομαι*, I do—make.
10. *κατὰ*.....*ἡμέθα*, verb, is 1st pl. of imp., sat down; missed out by Edginton; of verb *ἡμαι*, I sit.  
*τῇνδε*, and her. *ἴθουν* is 3rd sing. pres., to guide.
11. *τῆς* δε.....*ποντοποροῦσης*, is gen. absolute, or noun of time. *ποντοποροῦσης*, part of *ποντοπορέω*, pass the sea—cross. The subst. is in *τῆς*—*νέως*, understood, while she the livelong day is crossing the sea.  
*τείταθ'*—for *τετατο*—pluper. pass., without augment. 3rd sing of *τείνω*, *τένω*, *τέτακα*, *τίταμαι*, I stretch.  
*δύσσετό τ' ἥελιος*—*ιδύσσετο*, 3rd. sing., 2 aor. mid. of *δύνω*, I go down; mid., *δυομαι*, I set. Is properly a fut. used as an imperfect, *δύσσομαι*, I fall.  
*σκιώντο* *τε* *πᾶσαι*..., and all our way was shaded. *σκιώντο* is 3rd plu. imp. with “*ο*” inserted; from *σκιάω*-ασω, I cover with a shadow; from *σκία*, a shadow.  
*ῆ* δ' *ἴκανε*. *ῆ* δ', and she. *ἴκανε*, 3rd sing. imper. of *ἰκάνω*, I come, from *ἰκω*-ἴξω.

ἰς πείραθ' for πείρατα, acc. pl. of πείρας-ατος or πείραρ-το, limit from περας, beyond.

βαθυρροῦ ὤκισαντο, gen. Ionic, govern by πείραθ'.

ἔνθα is here, there, in or to that place, thither.

δήμος is the district; πόλις is the city, or state = urbs or civitas.

15. ἦρι καὶ νεφέλῃ..... ἦρ-ηρός, poetic, from ἄηρ, mist, dark air—δ.

κεκαλυμμένοι is part. per. pass. of καλύπτω-ψω-κεκάλυφα-κεκάλυμμαι.

Part. κεκαλυμμένοι is used with ἴσσι, to be, and forms thus a conjugation.

Sing. κεκαλυμμένος ἰμι-ἰς vel ἰτ. ἴσσι, &c.

ἦρι καὶ νεφέλῃ are instrument. Dative, thing in which covered.

οὐδέ ποτ', not even, not at any time. ποτί, at any time.

Ἡέλιος φαίδων. Observe the meaning of the epithet, φαος, light, and θῶν, from obsolete root θῶ, from θέω, or θάω, θέω, I place; θάω, I nourish, light nourishing sun.

καταδέρκεται, 3rd sing. pres. of καταδερκομαι, used actively, I see, I look, and governs αὐτοῦς.

ακτίνεσσιν, dat. pl. of ἀκτίν and ἀκτίς-ινος ἡ, beam, ray, instrumental dat. Ionic and poetic.

οὐθ' ὅπου' ἄν = not when.

στείχῃσι, 3rd sing. present subj. of στείχω, I march, go.

πρὸς, motion to, and acc.

οὐθ' ὅτ' ἄν ὅτε answers the ὅπου of preceding.

ἀπ' οὐρανόθεν προτρέπηται. οὐρανόθεν is in the position of a genitive, and, in fact, an old gen. form = θεν, origin; as θι is a dative form = to.

ἄψ = back again, adv.

προτρέπηται is 3rd sing. pres. subj. Ionic, said to be of τρέπω, τρέψω, and also τράπω, I turn, should be 2 aor. with a pres. time.

δειλὸς-ή-όν, fearful, full of fear; in dat. by ἐπι in composition.

τεταται. See line 11.

20. ἐλθόντες ἐκέλσαμεν, we came and moored, resolution of part. ἐκέλ-σάμεν, 1st plu. aor. 1st of κέλλω, κέλσω, I land, bring into port; taking νῆα, thing brought, in acc.

ἐκέλευθ', aor. 2, plu. 1st per. pass. of αἰρέω-ήσω. aor. ἐλεον, I lift.

εἰς is joined to verb, and takes acc., μῆλα, plu. cattle, sheep.

αὐτοὶ δ' αὐτὴ παρὰ..... ἦομεν. αὐτοὶ = selves, when in nom. παρὰ = by the side of, with acc. ῥέον = acc. sing of ῥέος-ου, current, stream. ῥομεν is 1st. pl. imper. or aor. 2 of εἶω, usual εἶμι, I go.

ἕρξ' εἰς χῶρον..... φράσι-Κίρκη, until, as far as.

ἀφικομεθα is aor. 2 of ἀφικνομαι-ἵεμαι.

ἵγμαι, 2 aor. ἵκομεν, as ἵκάνω, line 13, come, go.

φράσι = ἑφράσι, aor. 1st, 3rd sing. of φράζω-σω, I speak.

ὧν is acc. by some preposition understood, περι.

Translation, line 23 :—

"Here Peremedes and Eurylochus held the victims. But having drawn my sharp sword from beside my thigh, I dug a trench a cubit every way.

And round about it I poured a libation to all the dead. The first was in honey mixed with water : the second in sweet wine : the third again in water : I sprinkled white barley meal above. And much I prayed the weak souls of the dead (promising), that, having come into Ithaca, I would sacrifice a barren cow, the very best ; and fill the pyre of gifts. And to Teiresias alone, far off, I'd sacrifice a quite black sheep, which excels others of my sheep ; and them, the nations of the dead, when by prayers and peace-offerings I had appeased, seizing the sheep, I cut off their necks into the trench, and black blood flowed. Ghosts of departed dead flocked up from Erebus ; brides and unmarried youths ; much suffering age, and tender maidens with new grieved mind : and many wounded by brazen spear, war, slain men with blood-stained armour. Around the trench, the many thronged from various places with mighty din. Strong fear seized me. But when I had encouraged my companions, I ordered them, having flayed, to burn the sheep, which, indeed, lay slain by the unpyting brass, and to supplicate the gods, both powerful Hades and awful Persephone. I myself, having drawn my sharp sword out from beside my thigh, sat down, nor did I permit the weak souls of the dead to come near the blood, before I had enquired (and learned) of Teiresias."

Line 23, analysis.

ἔνθα, here, place reached.

ἱερήια, accus. pl. of ἱερήιον-ου-το ; same as ἱερῶν-ου-τῶ, victim.

ἄορ δξυ, acc. of ἄορ-ορος-τῶ, sword ; δξυς-εια-υ, sharp.

παρὰ μηροῦ. παρὰ, from the side of. μηροῦ, gen. of μηρὸς-οὔ-δ, thigh.

25. βόθρον ὄρυξ' ὅσσον.....κ.τ.λ. βόθρος-ου-δ, pit, trench. ὅσσον for ὅσον, as much as = Latin quantum.

πυγούσιον, acc. of πυγούσιος-ου-δ-ῆ, cubit long. Root, πύξ, closed fist.

ὄρυξ' for ὄρυξα, 1st aor. 1st per. sing. of ὀρύσσω-ξω ὠρυχα, I dig.

ἔνθα καὶ ἔνθα = length and breadth.

ἄμφι αὐτῇ δὲ...κ.τ.λ. ἄμφι, around ; governs gen. dat. acc. αὐτῇ, dat. sing. αὐτὸς-ῆ-δ, he, she, it ; relating to βόθρον.

χοῆν χέουμην, noun and verb of kindred meaning. χοῆ-ης, libation.

χέουμην, 1st per. sing. imp. indic. of χέω and χέομαι, I pour, fut. χέσω, poured a drink-offering.

πασιν νεκύσσιιν, dat. pl. of νέκος-υος, same as νεκρός, ghosts, manes, shades, or spirits of dead. Is masc. and Ionic form.

πρωτα...μετέπειτα...το τρίτον, all adverbs of time as used here.

μελίπρῃτω, dat. sing. of μελίπρεπτος-ου, and Ionic κρητός-οὔ-δ-ῆ.

28. ἐπὶ, without case, above over.

ἄλφιστα λευκά. ἄλφιστον-ου-τῶ, barley meal, governed in acc. by παλυνον, which is 1st sing. imper. of παλύνω, without the augment.

29. πολλὰ δὲ γουνοῦμην...κάρηνα, and much prayed I. πολλὰ, adv., as πολυ. γουνοῦμην, 1st sing. imper. indic. of γουνομαι-οὔμαι, supplicate, from γόνυ, knee, takes acc., verb is, I ask at knees.

ἀμειννὰ κάρηνα ἀμειννός-ῆ-δ, weak ; from μένος, courage. κάρηνᾱ, acc. pl. of κάρηνον-ου-τῶ, head, soul.

30. ἰλθὼν, part aor. 2nd of ἔρχομαι. ἰλεύσομαι, I come. Nom. agreeing with the promiser.

στῆραν βοῶν, acc. by ῥέξιν.

ἧτις ἀρίστη. ἧτις of ὅστις ; ἧτις, ὅτι, which ever is the best. ἀρίστη, fem. sing. super. in form of ἀγαθὸς-ἀρεῖαν-αρίστος, irregular, comparative, and super., mean better in war.

ἐν μεγάροις, dat. Ionic of μέγαρον-ου-τό, palace or temple.

ῥέζειν, fut. inf. of ῥέζω-ρέζω, perform, I supplicate and promise, that having come, &c., I shall.

πυρὴν ἔ' ἱμπλήσεμεν, fut. inf. of ἱμπήσλημι, ἱμπλήσω, ἱμπήσληκα, I fill, usual fut. inf. ἱμπλήσειν, shortened from older form, πλησέμεναι, takes acc. and gen. ; (as a verb of filling).

ἰσθλῶν, of excellent things, ἰσθλός-ή-δν.

32. ἱερευσέμεν, fut. inf. act. of ἱερεύω-σω, shortened from ἱερευσέμεναι ; more modern from ἱερευσέιν, is made by elision of μ, and contraction of εε into ει.

ἀπανευθεν, apart, far off ; verb takes acc. and dative. οἶω, light breathing is "alone"—οἶος-α-ον.

παμμήλαν'. μέλανα, acc. of adj., μέλας, αἰ να-αν, and ὀ.

ὅς μῆλ' οἰσιν, κ.τ.λ., Ionic dat. form μῆλοισι, common ; ὅς, relative of ὅς, ἦ-δν, relates to ὅν, of ὅς-οἶος-ή or ὀ.

μεταπρέπει, 3rd sing. pres. indic. of μεταπρέπω, be above others. πρέπω, becoming.

ἡμέτεροισιν, Ionic dat. pl. of ἡμέτερος-α-ον, our.

34. τοὺς δ' = relative acc., by verb, but relating to νεκῶν, whom after I, &c.

εὐχολῆσι, poetic dat. of εὐχολή-ῆς, vow. λιτῇσι, same in form.

λυταῖ-ᾶν, prayers, peace-offerings, 1st declension.

ἔθνεα-νεκρῶν, in opposition to τοὺς, whom, these nations, tribes of dead.

ἔλυσάμην, 1st sing. 1st aor. ind. of λίσσομαι or λίστομαι ; fut. λίσσομαι, I pray, implore.

τὰ δὲ μῆλα λαβῶν, κ.τ.λ. λαβῶν, 2 aor. part of λαμβάνω, λήψομαι, ἔλθηκα, εἰλημμαι, I seize. Resolve thus : I seized, &c.

ἀπειδειροτόμησα, 1st per. sing. 1st aor. ind. act., to behead. δειρή, neck, and τέμνω, cut.

ῥέε δ' ἱμα κελαινεφίς. ῥέε, 3rd sing. imper. ind. of ῥέω-ρεύω, flow, not augmented. κελαινεφίς-το, sing. nom. of adj. κελαινεφής-ὀ-ή, "and blood, dark as a cloud, flowed."

36. ἀγέροντο, aor. 2 mid. 3rd pl. of ἀγείρω, ἀγερέω, ἤγερεκα, and Attic ἀγήγερεκα, congregate, assemble.

ὑπὲξ Ἐρίβευς. ὑπὲξ is ὑπο' and ἔκ, or ἐξ, up from under. Ἐρίβευς, Ionic gen. of Ἐρίβος-εος-οὺς, Erebus.

κατατεθνηῶτων, gen. pl. part. perf. of θνησκω, die. θανούμαι, τέθνηκα, part. τεθνηκώς-νηώς-ωτος, mortal dead.

38. νύμφαι, are married newly. τε.....τε, joins in pairs. ἡῖθσοι, unmarried youths, masc.

πολύτλητοί τε γέροντες. πολύτλητος-ὀ-ή, much suffering age.

γέροντες, nom. pl. of γέρων-οντος, aged, senex, is adjective. We have like phrase "with age dwells wisdom," i.e. aged people. Is best to noun the word—sense complete and neater.

παρθενικαί ἑ' ἀταλαί, κ.τ.λ., and tender womanhood. παρθενικός-ή-ον, belonging to virgin, or young woman. Best expressed as above, ἀταλός-ή-όν, tender. Root not the same as πολυτλητος, α-ταλός, τλάω, dare, suffer. αταλλώ, I nourish delicately.

νοπινθία θυμὸν ἔχουσai, part. pres. fem. pl., with acc. νοπινθής-ῶ-ή, new in grief.

40. οὐτάμνοι χαλκήρεσιν, κ.τ.λ. οὐτάμνος, apparently present, but translate as perfect; and then for οὐτάσμενος, of οὐτάζω, and accent thrown back, wounded, ἐγχεισιν. Instrumental dat., ἐγχεία-ας, spear, as ἔγχος.

41. ἄνδρες ἀρηϊφατοί...κ.τ.λ. ἄντη, ἄντερος, ἄνδρος. Line 123 has ανηρες in nom. plu. ἀρηϊφατοί, war, slain, is the exact meaning; examine composition, that decides. To use more words weakens the expression. "Men slain in war."—Edginton. Of course, in verse; he would not in prose.

ἔχοντες = with.

βεβροτωμένα τέχαι'. βεβροτωμένα, perf. part. pass. of βροτώ-ωσω, blood stain. τέχαι' = τέχαια, acc. pl. of τέχης εὐς τὸ, implement, pl. arms.

φοιτῶν, 3rd. pl. imperf. ind. of φοιτάω-ήσω, wander.

ἄλλοθεν ἄλλος, one from one place, other from other. περὶ already gives sense of all around the trench, and this phrase intimates quarters various, whence the spirits come.

θεσπεσίη ἰαχῇ. θεσπέσιος-ῶ-η, and also 1st and 2nd decl., Ionic, uttered by a deity, mighty, great. ἰαχῇ, dat. sing. of ἰαχῇ-ῆς-ῆ, cry, clamour, din.

χλωρὸν δὸς ἦρει. χλωρὸς-ῶ-ον, is, pale, but root says, lively, fresh, hence, strong dread. δέος-δεεος, το, fear. He describes a feeling of the mind—not an appearance—in its cause—not its effect. Strong, fresh, lively fear; better than *pale* fear. ἦρει, is 3rd sing. imperf. ind. of αἰρέω-ήσω, seize, take hold of.

δὴ τότ' ἔπειθ', for ἔπειτα, then indeed, after.

ἐποτρύνας, 1st aor. part. act. masc. nom., cheer, encourage.

ἐκέλευσα, 1st aor. ind. act. of κελεύω-εύσω, I order, with dat., ἐτάροι-σιν, and infin.

μῆλα, acc. pl. neuter by κατα κῆαι, burn.

45. δέραντας, acc. pl. mas. 1st aor. part. of δέρω, I skin. ἔδειρα, acc. before verb.

κατακῆαι, 1st aor. inf. epic. of κατακαίω. καύσω, I burn down, governs μῆλα.

τὰ δὴ = which indeed. Relative in force. κατέκειτ' for κεῖτο, imper. 3rd sing. of κείμεi, κείσαι, κεῖται, I lie. ἐσφαγμένα, nom. plu. neut., after verb, part. of per. pass. of σφάζω, οὐτω, σφάζω. ἐσφαγμαι, per. pass.

νηλεῖ χαλκῶ, dat. νηλεῖ, of νηλεῖς, or νηλεῆς, gen. εὐς, unpitying—steel, we say, Greeks say, χαλκῶ of χαλκός-ος, brass.

ἐπύξασθαι δέ... 1st aor. inf. of ἐπύχομαι, εὐξομαι, pray, vow; with dat., θεοῖσιν, Ionic and poetic.

47. ἰφθίμῳ τ' Ἀΐδῃ καί...κ.τ.λ. ἰφθίμῳ, dat. of ἰφθίμος-ῶ-ή, strong, powerful; ἰφί, strongly.

Ἀΐδῃ, dat. of Αἰδώς-ος, and more common gen. οὐ. αἰδώς-ου, Hades, unseen, from compound, α = not, and ἰδῆν, a God here.

ἱπαινῇ Περσεφονείῃ, dat. ἱπαινῇ of ἱπαινός-ῶ-ον, terrible, not praised;

from *ἀνός*, terrible, awful. *ἀνός*, terrible; *ἄνω*, speech; *ἄνη*, praise. These datives are expletive of *θεοῖσιν*, and so in same case. Edginton has missed these fine epithets.

*αὐτός*, nom., self as had occasion to remark. It is self in nom., without substantive, or, in any case, with one. See Arnold's Greek Prose Comp., part 1.

*ἤμην*, imper. of *ἤμαι*, *ἤσαι*, I set. *ἤμην*, *ἤσο*, *ἤτο*, imper.

*εἶων*, 1st sing. imper. of *εἰάω-ασω*, I allow, for *εἰαον*, aug. *α*.

*ἴμεν*, for *ἴμεναι*, and shortened; usual form *ἰέναι*, I go, inf. pres.

50. *αἰματος ἄσσον*. Gen. by *ἄσσον*, nearness, as adv. of place, take gen. *πριν...πυθίσθαι*... 2 aor. inf. of *πυθάνομαι*, *πειύσομαι*, *πειπύσμαι*, enquire, interrogate, learn of. Takes gen. Denotes use of senses, sight and hearing, question so as to learn.

Translation, line 51 :—

"First came the spirit of Elpenor, my comrade. For not yet had he been buried under the broad-spreading earth. For we left his body, unwept and unburied in the palace of Kirké, because another labour was pressing on us. Whom, when I saw (*ἰδὼν*) I wept and pitied in my mind, and accosting him, I spoke words not to be recalled: 'Elpenor, how camest thou under this murky darkness? You, being on foot, have sooner come than I with the dark ship.'"

Analysis, line 51 :—

*οὐ γὰρ πῶ, κ.τ.λ., ἰθάπτο*, 3rd sing. pl. ind. pass. *ἰθάμμην*, of *θάπτω*, *θαψω*; 1st. aor. pass. *ἰθάφθην*, 2nd aor. *ἰθάφην*, perf. pass. *ἰθάμμαι*, bury, inter, or burn a dead body: mode of burial among Greeks and Trojans, as in last book of *Iliad*.

*ὑπὸ*, is under. Latin sub., aspirate changed to *ς*. Takes gen. dat. acc. with idea of under. *χθονός*, gen. by *ὑπὸ*, and is of *χθώνονός-ῆ*, earth.

*εὐρυδοίης*, gen. of *εὐρυδοίος-δ-ῆ*, of *εὐρύς*, broad, and *ὁδός* way; probably "wide-wayed," if we may coin a form.

*σῶμα γὰρ, κ.τ.λ.....κατελείπομεν*, is first pl. of imp. ind. *λείπω-ψω*, I leave. *ἄκλαυτός-δ-ῆ*, *ἄθαπτός-δ-ῆ*, unwept and unburied, comp. of *α* = not, and respective verbs, *κλαίω*, I weep, and *θαπτω*, bury.

*εἰπὶ*, because, quoniam, assigns reason of action.

*ἔπειγην*, 3rd sing. imp. ind. of *εἰπείγω*, I urge, impel, drive, fut. *ἐπείξω*.

*τὸν μὲν ἐγὼ. τὸν* is the relative whom and him. *ἰδὼν*, part. = when I saw.

57. *Ἑλπήνορ*, vocative, nom. *Ἑλπήνορ*. See Classical Dictionary.

*πῶς ἤλθεις-ὑπὸ, κ.τ.λ.* *πῶς* = quo modo, how. *ἤλθεις*, 2 aor. 1 sing. of *ἔρχομαι*. *ἰλύσομαι*, 2 aor. ind. *ἤλυθον*, or *ἤλθον*.

*ὑπὸ*. Takes acc., and is motion under *ζόφον*, acc. of *ζόφος-ου-δ*, darkness, mist, cloud. *ἡρβάντα*, acc. of *ἡρβός-εσσα-ν*, adj., murky, obscure. Is not place but state speaks of.

*ἔφθης πεζός ἐὼν ἢ, κ.τ.λ.* *ἔφθης*, 2nd. sing. 2 aor. ind. of *φθάνω*, *φθασω*, or *φθησομαι*, I anticipate. *πεζός-η-ον*, on foot. *εἶων*, pres. part. of *εἶμι*, I am, you have come on foot before I (have come) with, &c. *ῖ* is in a comparison here, which is in verb "*φθάνω*,"

and is to be rendered, before, or sooner than. Vide Arnold, Part I., page 98.

Translation, line 59 :—

"So spake I; and grieving in his mind, he answered me: 'Love sprung Laertes' son, artful Ulysses. The ill luck of my genius hurt me, and untold wine. And in the house of Kirké sleeping, I perceived not, going to the long ladder to descend again, but fell down from the roof. My neck was broken from the vertebræ. My spirit came down to the house of Hades. But now, I pray thee, by those left behind, not being here, both by thy wife, and by thy sire, who tended thee when young; and by Telemachus whom you left alone within your halls. For I know that going hence from out the house of Hades, you will guide your well built ship to Edeas Isle. Here, then, O king, I order thee to remember me. Going, leave not me behind, unwept, unburied, you having been withdrawn, lest I become some cause of anger from the Gods to thee, but burn me with my arms, whatever belongs to me, and raise my sign (σημα) upon the beach of the hoary sea, and testify to those who shall be of me unhappy man. These things do for me, and fix my oar upon my tomb, with which while living, I was used to row, among my comrades.'"

Analysis, line 59 :—

59. *ἰφάμην*, 1st sing. imper. ind. *φημι*, I speak.  
*διμῶζας*, part. 1st aor. act. nom., *ὁ*, *διμῶζω*, I deplore.
60. All in vocative.
61. *ἄσέ με δαίμονος αἶσα*. Observe accent on *ἀσέ*, and circumflex; accent belongs to *με*, enclitic, *ἀσέ*, aor. 1st ind. 3rd sing. same as *βλάψαι*, hurt, from root, *αἶω*, as thought, *με*, acc. by.  
*αἶσα κακῇ*, ill luck. *αἶσα* is lot, fate, decree, what falls out by fate, *carca* as *prases* of fates.  
*δαίμονος*. Gen. of *δαίμωνος*, spirit; not demon in our bad sense, but angel, as Socrates in Mem. Here I make genius in sense of an accompanying something to man. Better so, than not translate the words, or only paraphrase.  
*ἀθέσφατος*, is unspeakable, not to be spoken, excessive, so untold, as in phrase—untold gold. He got without measure or stint, the true meaning.
62. *καταλέγμενος* is part. pres. for *λεγόμενος*, accent so far back tells; from *καταλέγομαι*, I sleep.  
*ὄνκ ἐνόησα*, very well, by Edginton, heed, took not. *νοέω-ήσω*, I turn my mind to, animadverted, and I revolve in mind.
63. *ἰὼν ἐς κλίμακα*, κ.τ.λ., *ἰὼν*, pres. part. of *εἶμι*, I go. *ἐς* = to or towards. *κλίμαξ-ακος ἦ*, ladder or stair.  
*ἄψορρον* is adverbial, again to descend.
64. *ἀλλὰ καταντικρὺ*, is adv., in front of, right down from or before; with gen., adv. of place take gen. *τέγος*, gen. sing. of *τέγος-τος τό*, roof-covering.  
*πίπον*, 1st sing. 2 aor. ind. act., without augm. of *πίπτω*: *περοῦμαι*, fall, perf. *πίπτωκα*.  
*ἐκ δὲ μοι αὐχλῆν*, is nom. sing. of *αὐχλῆν-ῆνος ἦ*, neck.  
*ἀστραγάλων*. Gen. pl. of *ἀστραγάλος-ου ὁ*, vertebræ, govern by *ἐκ*, from, away from.



ἰάγη, 2 aor. pass. of ἄγνυμι, ἄξω, ἰαγα; 2 aor. pass., ἰάγην, I break. ἄϊδοςδε is gen., supply δομον, house.

66. τῶν ὀπιθεν, use of adverb in this way common. οἱ παλαι = ancients, so οἱ ὀπιθεν = those behind, after us, survivors. Govern by προς, understood.

οὐ παρεόντων = gen. pl. of part., in agreement with τῶν ὀπιθεν.

ἀλόχου, spouse, wife, ἡ. ἀλοχος, ὁ, ἡ, sharer of a bed.

ὅ. σ' εἴρεφαι. 3rd sing. imp. of τρέφω, θρέψω, τρέφωμαι, rear, bring up. Imper. continuance of action.

τυτθὸν ἰόντα, being young = while young. τυτθός-ἡ-ὄν, small.

Τηλεμάχου θ joined to other gen. by θ' = τε. εἰπες, 2nd sing. imp. ind. of λείπω, leave.

69. οἶδα γάρ. οἶδα, 1st sing. of εἶδω, perf. form, I know, οἶσθα, οἶδε, οἶδαμεν-ατε-ασι.

ὥς = that. ἐνθένδε = hence.

κίων, part. pres. for ἰών, longer form from κίω, I go. Observe difference between this and κίων, Book I., line 53. κίων is pillar, κίων is going.

ὀδμου ἐξ, prep. after case. αἶθης, αἶθας, house of Hades; full expression shortened above.

σχήσεις, 2nd sing. fut. of εἴχω. εἴξω and σχήσω, have, hold, here, guide, steer, takes εὐεργία νῆα in acc. εὐεργης-ὁ-ἡ-γες-τό, well built. νήσον ἐς Αἰαίην, Alaea is Kirkés island.

71. ενθα σ' ἐπειτα, here, then.

κέλομαι, I order. κελήσομαι.

μνησασθαι ἐμεῖο. μνήσασθαι, 1 aor. inf. of μνάομαι, μνήσομαι, μέμνημαι, remember, with gen. according to rule, verbs of remembering or forgetting take gen. ἐμεῖο, Ionic. and poetic, as ἐμοῦ of ἐγώ.

72. μή is joined to inf., and so ὀπιθεν, inf. governed by ἰών, part. = when you go.

73. νοσφισθίς, 1st aor. part. pass. of νοσφίζομαι, I depart. Agreeing with σὺ; understood.

μή.....γένωμαι. μή = lest, with subj. μῆνιμα-ατος-τό, cause of anger, hatred, and nom., after verb, γινώμαι, as subst. verb; governs θεῶν, from gods.

τοῖ σοι. τι, at all.

74. ἀλλὰ.....κακχῆαι, for κατα κῆαι, 1st aor. infin. of καίω. καύσομαι, I burn, governs με τεύχεσιν; dat. pl. of τεύχος-ος, implement; pl. arms.

ἅσσα = ὅσα, of ὅσος-η-ον, whatever.

75. σῆμα-ατος, monument, acc. sing. χεῦαι for χεῦσαι, 1st aor. act. inf. of χέω, χεύσω, κέχυκα, pour, to pour out, said of the earth emptied out of the tomb. σῆμα χεῦαι, to pour out the sepulchre to me = dig grave, pour out earth of sepulchre.

ἐπὶ θινί; on the beach. θίς-ινός-ὁ-ἡ, sand. πολῆς, gen. of πολὺς-η-ὄν, ancient; and hollow out my grave upon the shore of the ancient sea. This is best for σῆμα χεῦαι, and poetic; what I put in text not so well, Edginton's is not the poet's meaning at all, though the usual translation.

ἀνδρὸς δυστήνιο. Gen. after *πυθίσθαι*, to learn of, know. *πυθίσθαι*, 2 aor. inf., middle.

ἴσσομένοινοι, to those coming after, men or times. *ἄνδρασι* or *χρόνοις*, supplied.

ταῦτά τέ μοι τελέσαι, inf. 1st aor. of *τελέω*, finish.

πῆξαι, 1st aor. inf. of *πῆγνυμι*. *πῆξω*, I construct, built together, join.

ἔργον, in acc. *τύμβω* is tomb.

τῷ καί, instrumental dat.

ζῶδες-ή-ον, alive.

μετα = among, in the company of, in midst of.

Translation, line 79 :—

"So spake he. And I again replying, spoke to him. These things for thee, unhappy man, I shall finish and effect. Thus, with sad words we two sat speaking, I holding my sword up over the blood, and the shade of my comrade from the other side spoke much. And there came up the shade of my late mother, Antikleia, daughter of Autolykus, great-heart, whom I left alive, when going to sacred Troy. Her, when I saw, I wept and pitied in my mind. But not even did I allow her first, though sobbing often, to come near the blood before I learnt of Teiresias."

Analysis, line 80 :—

ἔρξω, is fut. 1st per. of *ἔρδω* for *ἔργω*, work, effect.

81. Νῶϊ.....ἀμυβομένω, nom. dual of pronoun *ἐγώ* = we two, both verb is dual of part. agreeing.

ὧς = in this manner.

στυγερὸς-ά-ον, sad, miserable, dat.

ἡμεῖς, 1st pl. of *ἡμαι*, *ἦσαι*, *ἦται*, I sit.

ἴσχω, pres. part., as *ἔχω*, have.

εἰδῶλον, an empty image; simulacrum, Latin, and nom.

84. ἐπὶ, governs no case, is up.

ψυχή, nom., and has *θυγάτηρ*..... *Ἀντίκλεια*, in agreement, as of same meaning; but would expect *μητρός*, to have ruled here.

κατατεθνηυῖης-ή, sing. of perf., part. shortened from *τεθνηκώς-υῖα-ός*.

τεθνηῶς, κ elided, and then declined as uncontracted. This contraction happens through whole perf. of this verb.

[85. *μεγαλήτορος*, gen. of *τορ*, great-heart; as we say, "John Lack-land," "Strong-bow," &c.

τῇν ζών. τῇν = whom, relative, as so often with Homer, but acc. by verb of own clause.

κατέλειπον is 1st per. and imp.

87. ἰδὼν, when I saw her.

88. εἶων, 1st sing. imp. of *εἰάω-ασω*, I allow, augm. "ι," *εἶαον* = *εἶων*. *προτέρην*, acc. by verb, and means first.

πυκινόν, adverbial. *περ* = though.

ἀχεύων, part. pres., agreeing in noun with subject of *εἶων*, *ἐγώ*. See line 50, for words in 89.

Translation, line 90 :—

"And there came next, the shade of Theban Teiresias, having a golden

sceptre, and me he knew and spoke to: 'God-born Laertes' son, artful Ulysses. Why, then also, O unhappy man, hast thou come, leaving the light of the sun, that thou may'st see the dead and this joyless land? But go thou from the trench, and withdraw thy sharp sword, that I may drink of the blood, and tell to thee unerring words.'

Analysis, line 90 :—

91. ἔχων ὁ, agreeing in gender with Teiresias.  
 ἔγνω is 2 aor. of γινώσκω, γινώσκειν, ἔγνωκα, I know again. προσ-  
 εἶπον, is 2 aor. in form, used as imperf.
93. τίπτ' αὐτ' = τίπτ' for τιποτε, why. αὐτε, as αὐ and then also. Hast thou too come? Not many came. See how many from Classical Dictionary.
- φάος-ιός-τό, light, acc. by λιπών, 2 aor. part. of λείπω, I leave.  
 ὄρα ἴδῃ, that, in order that, and subj. ἴδῃ; 3rd sing. sub. of οἶδα, I know, see. εἰδέω, root of both.
- ἀτερπεία χῶρον. ἀτερπεία, acc. sub. of ἀτερπής, ὁ-ή, ες-το, joyless of "α".  
 privative, and τέρπω. Observe declension of adjectives in ες,  
 compounded with "α"; of those too in ης, with "α"; ος is ὁ-ή;  
 ης is ὁ-ή.
- ἀποχάζεο, 2nd sing. imper. mid. of ἀποχάζομαι, I retire. βοθρου, by  
 ἀπὸ, in composition.
- ἄπισχε, 2nd sing. imper. of ἀπίσχω, as ἀπέχω, withdraw.
96. αἷματός ὄρα πῖω, κ.τ.λ. ὄρα, that. πῖω is 1st per. 2 aor. subj. of  
 πίνω, πίνωκα, drink. Scan line, πῖω, quantity, tells tense and  
 mood. Gen. follows as verb of tasting; operation of any of  
 senses except sight take gen.—drink some of.

Translation, line 97 :—

"So spake he, and I, having stepped back, thrust my silver-studded sword into its sheath. But when he drank the black blood, even then, indeed, the blameless prophet addressed me in these words."

Analysis, line 97 :—

- ἀναχασσάμενος, 1st aor. part. of ἀναχάζομαι, ἀσομαι, I retire, step back.
- ἀργυρόλιν. ἀργυρολος-ὁ-ή, silver-studded; neut. acc., agreeing with ξίφος, which is acc. after ἐγκατέπηξα, 1st aor. ind. act.; 1st sing. of ἐγκαταπήγνυμι, πήξω, πίπηγα, 1st aor. ἐπηξα, I place in; take acc. of thing, dat. of place. κουλῆος-οὔ and κυλῆος-οὔ ὁ, sheath; form here is Ionic.
- πίεν, 2 aor. ind. κελαινόν, black.
- μάντις ἀμύμων. μάντις-ιός and εως, one in phrensy, prophet, diviner, ὁ and ἡ.....ἀμύμων-ὁ-ή, blameless; nom. to προσηύδα, which is imperf. ind.

Translation, line 100 :—

"Famous Ulysses, thou art seeking (enquiring after) sweet return. And this the god shall make difficult to thee. For I know thou shalt not escape the notice of the earth-shaker, who stores wrath in his mind to thee, being angered that thou didst blind a son dear to him. But, yet, perhaps, though suffering ills, even thus you may return home, if only you will restrain your

own desire (*θυμὸν*) and that of your comrades, whenever first you shall have brought the well-built ship to Trinacria's isle. Having escaped the purple-coloured sea, ye will find browsing oxen and plump sheep of the sun, who all things looks on, and all things hears. And these, if only you leave unhurt, and take care of your return, even then, though suffering ills, you may come into Ithaca. But if you hurt them, then surely I foretell destruction to the ship and to thy comrades. And if, perchance, thou mayst thyself have escaped, yet badly shalt thou late return in foreign ship, having lost all thy comrades. And in your home you will find (ruin) calamities, violent (proud) men, who eat up thy substance wooing thy noble (*αντιθέην*, god-like) wife, and giving marriage portions. But when you have come (*ἐλθών*) thou wilt avenge their violence. But after the wooers in thy halls thou shalt have slain, whether by craft or openly with sharp (brass) sword, then, taking the well-fitted oar, thou'lt go, until (*εἰς ὃ*) those whom (*τοὺς*) you may have reached, are men, who do not know the sea, nor eat food mixed with salt, and so know not red-sided ships, nor well-built oars, which are the wings to ships. Sign very clear, I tell thee, nor shall it be hid from thee. Whenever another traveller meeting thee shall say thou hast upon thy noble shoulder-blade, corn winnowing fan, even then in the earth having fixed the well-built oar, performing sacrifices fit to King Poseidon, a ram, bull, and wild boar mating with sows, homeward return and sacrifice a sacred hecatomb to the immortal gods who hold broad heaven, to all quite (*μαλα*) in succession. And death from out the sea shall come so very gentle to thee, which will slay thee worn down (wasted) by a fair old age. Your people shall be happy around. These unerring things I tell to thee."

Analysis, line 100 :—

*νόστον*.....*μελιηδέα* of *μελιηδής*, acc. sing. *ῶ*.

*δίζηαι*, 2 sing. ind. mid. of *δίζημι*, mid. *δίζημαι*, seek, enquire for, ask oracle.

*φαιδίμει*, voc.

101. *θεός*, particular God, *ποσειδάων*—*τόν δέ*, relative to *νόστον*.

*οἶω*, 1st sing. pres. of *οἶομαι* and *οἶμαι*, I think, deem.

*λησύνειν*, fut. inf. of *λανθάνω*, *λησώ*, escape, be concealed from, with acc. *ἐννοσίγαιον*, earth-shaker—Poseidaon.

*ὃ τοι κότον*.....*ὃ*, relative ; *τοί*, old, dat. pron.

*ἔνθετο*, 3rd sing. 2 aor. ind. mid. for *ἐνέθετο*, place, put.

*κότον*, acc. *κότος-ου-ὃ*, and dat., place wrath in mind.

*χωόμενος* = part. pres. mid. of *χωομαι*, be angry.

*ἐξαλάωσας*, 2 sing. 1st aor. act. of *ἐξαλαάω-ώσω*, I blind, deprive of sight.

104. *ἀλλ' ἔτι*.....*ἴκοισθε*. *καὶ ὧς*, even so. *κακὰ περ πάσχοντες*. *κακὰ*, acc. pl. of *κακός-ή-ὸν*, ills. *περ* = though. *πάσχοντες*, pres. part. nom. pl. of *πάσχω*, *πέισομαι*, *πέπονθα*, 2 aor., *ἔπαθον*, I suffer. *ἴκοισθε*, 2 per. pl. 2 aor. of *ἰκνέομαι*, *ἴξομαι*, *ἔγμαι*, 2 aor. *ἰκόμεν*, I return, come, simply. The form is opt., *κε*, joined to, may, condition.

105. *αἶ κ' ἐβέλης*. *αἶ* = *εἰ*, if. *κε*, with finite verb, *ἐβέλης*, 2 sing. subj. of *βέλω* or *ἐβέλω*, *βελήσω*, *τεβέληκα*, will.

*ἐρυκακύνειν*, inf. pres. of *ἐρυκακύνω*, restrain, keep back ; takes acc. *σὸν θυμὸν*. *καὶ* repeats acc.

*ἱταίρων*, gen. pl. of *ἱταῖρος-ου*, comrades, minds of.

*ὅππότε*. *κε*, whenever joined to subjunctive. *πρῶτον*, first.

106. *πυλάσῃς*, 2 sing. aor. subj. of *πυλάζω*. *άσω*, I bring near.  
*εὐεργεία νῆα*. *εὐεργής-ή*, well wrought or made, acc.  
*Θρινακίη νήσῳ*, is Sicily, called *Θρινακίς*, from shape.
107. *προφυγών*, 2 aor. part. of *φεύγω*, *φεύζομαι*, *πίφειγα*, 2 aor. *ἔφυγον*, to escape.  
*ιοειδέα πόντον*. *ιοειδέα*, acc. of *ιοειδής-ή*, violet coloured, of *ἰον-ου*, a violet.
108. *βοσκομένας.....μήλα*. *ἡελίου ἔυρητε*, 2 pl. 2 aor. sub. of *εὐρίσκω-ήσω-ηκα*. 2 aor. *εὔρον*, I find, with acc.  
*βοσκομένας*, acc. pl. part. pres. pass. of *βοσκω*, I pasture. *βόας*, acc. pl. of *βοῦς*, *βοός-ή*, cows.  
*ἴφια μήλα*. *ἴφιός-α-ον*, fat, plump.
109. *ός*, relative to *ἡελίον*, nom. verbs. *ἔφορᾷ*, 3rd sing. pres. ind. of *ὀράω*. *ὀψομαι...ἑώρακα*, *ἑώραμαι*, I look on.  
*ἐπακούει*, 3rd sing. of *ακουω*, fut. in *ἀκουσομαι*, *ἀκήκοα*, I hear.
110. *τάς εἰ* = which if, relative *ἀσινίας*, acc. pl. fem. of *ἀσνής-ή*, unhurt.  
*ἑάας*, 2 sing. pres. ind. for *ἑαίς*, contracted *ἑᾶς*, and by poets made longer by insertion of *α*, subj. *ἑάας*; 2 per. allow of *ἑάω*, *ἑάσω*.  
*νόστου τε μέδῃαι*. *μέδῃαι*, 2 sing. pres. subj. of *μέδομαι*, I care for, regard, with gen., verbs care for rule; take gen. *μέδῃσαι*, then *σ* elided becomes as in text.
112. *σίνῃαι*, 2 sing. sub. mid. of *σίνομαι*, injure; hurt, formed as verb above.  
*πότε τοι τεκμαιρομαι*, pres. ind. *τεκμαρῶμαι*, fut., I shew, foretell, acc. and dat.
113. *ἄλύξης*, 2 sing. 1st aor. subj. of *ἀλύσκω-υξω*, escape.  
*ὄψ' ἐκ κακῶς νεῖται*, 2 sing. pres. ind. of *νεομαι*, I return, and poetic.  
*νεῖται*, is used in fut. sense: badly shalt thou late return. *ὄψ' = late*, after long. *νηός-ἐπ' ἀλλοτρίης*, in foreign ships; *ἐπ'* with gen. on.  
*ὀλέσας ἄπο*, separated from verb. *ὀλέσας*, part. 1st aor. of *ὀλλυμι*.  
*ὀλέσας, ἀπώλεσα*, 1st aor. *ἀπολώλεκα*, destroy, lose, taking acc.
115. *δήεις δ' ἐν πῆματα, κ.τ.λ.* *δήεις*, 2 sing. of *δῆω*, with fut., meaning to find, learn; with *πῆματα*, ruin, loss, in acc. *οἷκῳ*; dat. by *ἐν*.
116. *ἄνδρας ὑπερφιάλους*, acc. pl. in apposition to *πῆματα*. These, cause of loss, taken as loss itself, or take whole clause, not as insolent, but as eating his substance, and whole then an acc. clause. These were his loss, things done in his house.  
*οἱ βίοντον κατέδουσιν*, 3rd pl. pres. ind. of *ἔδω*, per. *ἐδήδοκα*, I eat, devour. A fut. *ἔδομαι*, most unusual in form; perf. pass. *ἐδήδεσμαι*.  
*βίοντον* is substance, a man's living, from *βίος*, life.
117. *μνώμενοι.....διδόντες*. *μνώμενοι*, part. pres. of *μναομαι*. *μοῶμαι*, seek after, woo, and acc.  
*ἱδνα*, acc. pl. neut. *ἱδνα*, *ἱδνων*, position. *δίδοντες*, pres. part. of *δίδωμι*, give.
118. *ἀλλ' ἤτοι.....ἑλθὼν*, but certainly. *ἀποτίσαι*, 2 sing. fut. ind. mid. of *ἀποτίνω τίσω*, avenge, acc. of thing for which, gen. of persons from whom. *βίας.....κείνων* for *ἐκείνων*, *ἀποτίνω*, I punish.
119. *αὐτὰρ ἐπὴν.....κτείνης*, but after that. *κτείνης*, 2 sing. pres. subj. of *κτείνω*, *κτεῖνω*, 1st. aor. *ἔκτεινα*, 2 aor. *ἔκτανον*, slay, kill, and acc.

- ἤ.....ἤ = whether ... or ... first = an, but not interrogative, comparison, or alternative.
- ὀξεῖ χαλκῷ. Greeks say, sharp brass spear head of that; we say, sharp steel, for sword; instrumental dat.
121. The infin., as stands, has force of imper., but governed by verb understood, δὲ it is necessary.
- ἔπειτα, correlative to ἐπὶν.
122. εἰς ὃ = until. τοὺς, relative to ἀνέρες, and governed by ἀφίκηαι, which is 2 sing. dat. aor. 2, mid. of ἰκνέομαι reach; ἱκησαι, ἱκηαι by elision of "σ".
- ἴσασι, 3rd plur. of οἶδα, οἶσθα, οἶδε. Pl. ἴσμεν, ἴστε, ἴσασι, I know.
- ἀνέρες, nom. pl.
123. μεμιγμένον, per. part. pass. μίγνυμι, I mix, fut. μίξω, μέμιγμα, observe accent of perf. part. pass. differs from position of pres. pass. Verb takes acc. and dat. Pass the latter case, ἔδουσιν, see in compound, line 116. εἰδάε-ατος, food, general term.
124. φοινικοπαρῆους, acc. pl., fem. of adj. ὅς-ῃ-ή, purple sides. παρειά, cheek.
125. πέλονται, 3rd pl. of πέλομαι, same as εἰμι, I am, only in present used.
126. σῆμα, token. ἀριφραδές-τὸ of δῆς-ῃ-ή, clear.
127. ξυμβλήμενος, part. of συμβάλλω, meeting.
- φῆη, 3rd sing. subj. for φῆ, pres., or 2 aor. of φῆμι, say.
- ἔχιν, subject is σ, and its object ἀθηρηλοῖον, acc. of λοῖγός-ου, corn-fan; of ἀθηρ-ερος, awn of barley, and λοῖγος, destruction.
- ἀνὰ..... ὤμῳ, dat. of ὤμος-ου, upper part of arm; observe ἀνὰ governs acc., here dat., and is upon.
130. καλὰ, governs dat. here, fit, suitable for.
131. ἀρνείδιν ταυρόν..... κάπρον, acc. in apposition to ἱερά. καλὰ, these are the specific sacrifices. ῥίξας, governs.
132. οἰκαδὲ ἀποστείχειν, inf. governed by verb δέησει, understood. ἔρδειν, by same, takes acc. and dat. ἔρδω, ἔρξω, to do, perform.
133. τοὶ is same as οἱ = who.
134. πᾶσι μάλ' ἐξείης, all quite in order.
- θάνατος..... ἀβληχερός-ᾶ-ον, feeble, gentle. τοῖς, of such a kind, just so; death so very gentle.
- ὃς κί σε πῆφν ..... ἀρημένον. πῆφν, 3rd sing. imp. of sub., ἔπεφνον, slay, with future force, κί, gives.
- ἀρημένον, acc. sing. mas., as adj., wasted, worn down.
- γῆραι ὑπο λιπαρῷ. γῆραι, dat. sing. of γήρας-αος, age. τὸ λιπαρῷ, full, shining, green, vigorous, wasted by a ripe old age.

Translation, line 138 :—

"So spake he; but I replying, answered him again. 'Teiresias, these things most sure, the gods themselves have decreed. But come, the following tell to me, and accurately narrate. I see the shade of my late mother—silently she sits near the blood. Nor me, her son, dared she to look full in the face, nor to address. Tell me, king, how she may know me (to be her son) who am her son.'

"So spake I, and he again replying spoke to me. 'Easily shall I speak the word to thee, and place it in your mind. Whatever one of mortal (dead)

shades you shall allow to come nearer the blood, he shall speak truly to thee, and he whom thou dost refuse (to whom thou bearest a grudge) shall go again behind thee."

Analysis, line 138 :—

139. Τειρεσίη, is voc. 1st dec.  
ἐπικλώσαν, 3rd pl. 1st aor. of ἐπικλώθω-σω, I spin, decree.
140. ἀτρεκέως καταλέξον. ἀτρεκέως and ἀτρεκέως, truly.  
λέξον, 1st aor. 2nd per. of καταλέγω. λέξω, reckon, enumerate.
141. ὄρώ, same as ὄρᾶω, ὄψομαι, I see.
142. ἣ δ' ἀκίουςα, ἣ, sing. of ἀκίω, adj., but observe its use as adv., as ἄκων, willing, silently.  
ἦσται, 3rd sing. pres. of ἦμαι, ἦσαι, ἦσται, sit.  
σχεδὸν αἵματος, adv. of nearness, takes gen., as in other example, αἵματος, ἄσπον.  
εἶν υἱὸν, εἶν σὸν, σοῦ-η-ον, his.  
ἔτλη ἐσάντα. ἐσάντα, adv. full in face. ἔτλη, 3rd sing. 2nd aor. of τλάω for τρᾶλάω. τλήσομαι, 2 aor., ἔτλην, I suffer, endure, dare.  
προσιμυθήσασθαι, same as προσμυθήσασθαι, 1st aor. mid. of προσμυθέωμαι, I address, accost.
144. ἀναγνοίη, 3rd sing. aor. 2 of αναγιγνωσκω, νῶσω, ἔγνωκα, 2 aor. ἔγνω. ἀνα = again, recognise. τὸν εἶντα = who am. ὁ πρᾶσσων = he who does, article and part.
146. ἐηίδιον...ἔπος...ἐηίδιος-α-ον, Ion. for ἐαδιος, early, ready; neut. easy word. ἐρέω, with fut. meaning. ἐθήσω, of τίθημι, place.  
ὅντινα μιν = whatever, one. τίνα = one. ἰᾶς, 2nd sing. subj. of ἰάω, allow form ἰάας, line 110, same part, from which this is contracted.  
νεκρῶν κατατεθνηώτων. Gen. by τίνα, as partative, mortal shades—other shades might not be mortal.  
νημιεῖς...ἐνίψει, 3rd sing. fut. of ἐνίπτω, ἐνίψω, of ἐν and ἵπω; same as ἐνεπω and ἐνίσπω, I tell, speak.
149. ᾧ δὲ κ. ἐπιφρονέοις, 2 sing. pres. opt. of ἐπιφρονέω. ἐπιφρονέω-ησω, I deny, refuse, governs dat. εἶσιν, 3rd sing. of εἶμι, which is used as a fut.

Translation, line 150 :—

"The shade of King Teiresias having spoken thus, went within the house of Hades, when he had set forth the divine decrees. But I remained there firm, until next my mother came and drank dark blood. Immediately she knew me, and bewailing me, she spoke these winged words."

Analysis, line 150 :—

- ὥς φασμένη is 2 aor. mid. of φημι, I speak.  
ἔβη, 2 aor. act. of βαίνειν, βήσομαι, βέβηκα; aor. 2. ἔβην, I go; δομον, governed by εἶσω, as εἶς, after verb of motion.
151. ἐπελ.....ελεξεν κατα, joined to, is 1st aor. act. 3rd sing. of λέγω, speak; καταλέγω, set forth; ennarro, Latin.
152. αὐτὰρ.....ἔμπεδον αὐτοῦ, is there.  
μένον, 1st sing. imper. without aug. of μένω, μενῶ, remain. ἔμπεδον, used adverbially.

ἔφρα = until, donec, Latin. ἐπι, join to verb came up; verb  
2 aor. 3rd sing. of ἐρχομαι. πινεν, 2 aor. 3rd. sing of πίνειν, I drink.  
Observe acc. after has been used with gen. after.

154. ἐλοφύρομένη, part. pres. middle of ἐλοφύρομαι, I bewail, has acc.

Translation, line 155 :—

"My son, how came you under this murky darkness, being alive? It is hard for mortals to see such things. For great rivers and dreadful currents are in between (μέσσω), chief indeed, is ocean, which it is not at all possible to have crossed, being on foot, unless one has the well-built ship. Or now, indeed, from Troy, wandering for a long time, dost thou come hither with ship and thy comrades? Nor yet at all hast come to Ithaca, nor seen thy wife in thy halls."

Analysis, line 155 :—

155. τέκνον ἱμὸν, voca. and τὸ.

πῶς ἦλθες ὑπὸ. πῶς = how, ὑπὸ, and acc. after verb of motion.

ζόφον-ου-ὸ, is darkness, gloom. ἡερόεντα, acc. sing. of ἡερόεις, murky, dark, obscure.

χαλεπὸν.....ξωοῖσιν, dat. pl. by adj., with to, or for after. χαλεπὸν is noun neuter. It is a hard thing to see. To see these things is part of a sentence, as subject takes adj. in neut. gender.

μέσσω, by ἐν, but better adverbial.

158. τὸν.....περῆσαι. τὸν, acc. of, used as ὅς, relative by περῆσαι. τὸν... περῆσιν εὐντα, for him who is on foot, to have crossed which; again. part of sentence, acc. and inf., become nom. to ἔστι. οὐ πῶς = not at all. περῆσαι, 1st aor. of περάω, ἦσα, and ἄσω, I cross.

ἢν μὴ τις = unless one, and subj.

160. ἢ = or, sometimes stands for verb say.

ἀλώμενος, part. pres. mid. of ἀλάομαι, I wander.

πολὺν χρόνον, how long, is acc. of time.

ἦλθες and εἶδες, 2 aor. εἶδες of εἶδον-ες-εἶδε.

γυναικα, acc. of γυνή-αικος-ή, wife, lady, woman.

Translation, line 163 :—

"So spake she, but I answering her, replied :—' My mother, necessity has led me down into the house of Hades that I should consult the shade of Theban Teiresias. For, not yet have I come near Achaia, nor yet approached my land, but I have wandered, always having trouble, from the time when first I followed the god-like Agamemnon to horse-producing Ilion, that I might fight with Trojans. But come, tell the following to me, and set forth truly. What fate, now of long sleep-producing death has thee subdued? or did lingering disease, or Artemis arrow-lover, coming with her gentle darts, destroy thee? Speak to me of my father and my son, whom I did leave behind. Is my dignity still within their power, or does some other one of men already hold it, who says that I will not again (οὐκ ἔτι, no more) return? Tell me the design and mind of my wedded wife; whether she stays beside the boy, and firmly all things preserves, or already has the best of the Greeks married her?"

Analysis, line 163 :—

164. μετ' ἱμῶ, voc.

χρειώ, poetic for χρειά, necessity, nom.



κατήγαγεν, 3rd sing. 2 aor. of ἄγω, ἄξω, ἦχα, ἦγαγον, lead down.  
εἰς Αἶδαο, elliptical.

ψυχῇ χρησόμενον, future part. acc. mas. of χράομαι. χρῆσομαι, I consult; fut. part. of purpose, used for purpose, quite common.

166. σχεδὸν Ἀχαιῖδός, adverb of nearness, with gen.

δουδὲ πω ἄμῃς, is gen. of ἄμος, possessive, Doric, for which.

γῆς, gen. ἐπὶ in compos., in answer to where.

167. ἀλλαλῆμαι, perf. pass. of ἀλάομαι, I wander. ἔχων, agreeing with sub., and taking δίζυν in acc., trouble. αἶεν, Join to part.

168. ἐξ οὗ τὰ πρῶτιστ' , from the time (κατὰ, as to its origin). χρόνου, understood.

ἵπομην, 1st sing. of imp. of ἵπομαι. ἵπομαι, I follow, or accompany, with dat.

169. εὐπῶλον, acc. sing. τὸ of εὐπῶλος-ὀ-ῆ, producing beautiful horses, hence fertile. Into fertile Troy, a district as well as town.

ἵνα = in order that, with opt., I should, purpose.

171. τίς νύ σε κῆρ. κῆρ-ερός, fate; ἢ τίς, interrog.

τανηλεγίος, gen. from γῆς, bring long sleep, or stretching out sleep, sleep-producing, as epithet from ταναός, extended, out-stretched; observe compound.

εἰδάμασσε, 3rd sing. 1st aor. ind. act. of δαμάω-άσω, I subdue.

172. ἡ δολιχῇ νοῦσος. δολιχός-ῆ-δν, lingering.

Ἀρτεμις ἰοχέαιρα, arrow-lover. ἰδς and χαιρῶ, delight in.

173. οἷς = σοῖς, ἀγανόις, dat. of ἀγανός, observe accent, gentle, mild. Another word ἄγανος, from ἄγνυμι, occurs in Greek. This instrumental dat.

κατέειπεν, 3rd sing. 2 aor. ind. act. of καταφίνω, I slay; which occurs as καταπίφνω, with meaning of simple.

βελισσιν, dat. poet. of βελος-τὸ, dart.

174. πατρός καί, in gen. by περί, understood.

175. πᾶρ for παρὰ, and ἐστὶ, understood.

νέρας, honour, dignity, and nom.

φασί, 3rd pl. pres., taking as subj. plural notion, men.

νέεσθαι, pres. inf. pass. with fut. sense of νόομαι, say I am [not] returning.

177. ἐνπὶ, with acc. after, not gen. as in line 174.

178. ἦι.....ἦ... asks question.

μένει, 3rd sing. pres. παρὰ παιδί, beside.

ἔμπιστα, adverb firmly.

φυλάσσει, or αἰνῶ-ξω, preserve, defend, guard; μιν ὁ or ἦ, and acc.

ἔγημεν, 1st aor. 3rd sing. of γαμέω-έσω, γέγημηκα. 1st aor. ἔγημα, I marry, active of man.

Ἀχαιῶν, gen. by ὅστις, super. δέ τις ἄριστος = whosoever of the Greeks is best warrior.

Translation, line 180:—

"So spake I, and my revered mother soon made reply. She, indeed, within your halls, with persevering mind remains. And to her always shedding tears, troublous nights and days consume away. But thy fair honours

not any yet possesses, but peacefully Telemachus the portion shares and divides the equal feasts, for which it is fitting that a mortal judge should care ; for all invite him. But thy father there remains on his land, not ever town-ward comes. And to him, beds, mattresses, cloaks, and splendid blankets are not, but through the winter sleeps he, where the attendants do, in the house, in the ashes near the fire, and filthy garments clothe his skin, but when summer and rich autumn come, everywhere for him, in fertile nooks of the vine-bearing orchard, ground-low beds of fallen leaves are strewn. Here lies he grieving ; and cherishes great grief within his soul. And sad old age comes on. So I perished and met my fate ; nor did the keen-eyed arrow-lover, coming with her gentle darts, slay me in my halls. Nor did some disease come on me, which oftenest takes the life out of the limbs by sad consumption ; but longing and care for thee, my noble Ulysses, and meek kindness for thee, took from me sweet life.

Analysis, line 180 :—

181. *τετλῆσσι*, dat. of *τετληώς-σῖα-δς*, of *τετληκώς*, perf. part. of *τλήμι*, I dare, endure ; here steadfast mind. :  
*φθίνουσιν*, 3rd. pl. pres. ind. of neuter verb, to consume away.
184. *καλὸν γέρας*, dignity ; distinguish from *γήρας*, old.  
*ἥκλος*, peaceful, used as peacefully like, *ἥκων*.  
*τεμένεα*, acc. pl. of *τέμενος*, lot or portion of land belonging to chief or king, to temple or god.
185. *νέμεται*, 3rd sing. pres. mid. of *νέμω* and *νέμομαι*, mid., I hold what is given as my share, I share, possess.
186. *δικασπόλον ἄνδρ'*, acc. before inf. *ἀλεγύνειν*, to prepare, care for. Should have gen., but *ἄς* acc. by attraction.  
*ἑπέοικε*, impersonal, 3rd sing. 2nd per. ind., with time of pres.
187. *μῖμνει* of *μῖμνω*, I remain, reduplicated verb: *ἀγρῷ*, dat. by *ἐν* understood of rest.
188. *πόλινδε*, townward.  
*εὖναι*, beds in pl. *δεμνια*, pillow, bolster or mattress ; stratum says Scapulæ, something extended.  
*χλαῖναι*, cloaks, coverlets, or blankets, *χλαῖνῃ-ς*.  
*ρήγεα σιγαλόεντα*, *ρηγος-εος*, acc. pl. *τὸ*, covering.  
*σιγαλόεντα*, acc. of *σιγαλόεις-εῖσα-εν*, splendid, glossy.
190. *ἀλλ' ὃ γέ χεῖμα*, acc. sing. neut., noun of time, acc. expresses duration of time.
191. *ἐν κόνι ἄγχι πυρὸς.....κόνι*, dat. of *κόνις-ιος*, Ion., and *εως*, Att., dust, ashes.  
*ἄγχι*, near, with gen. *πῦρ-πυρὸς*, fire.  
*καπὰ δὲ χροτ' εἴματα εἴται*. *χροτ'* is dat. of *χροδς-ου-δ*, skin.  
*εἴται*, 3rd sing. of *εἴμαι* ; perf. pass. of *ἐννυμι*, to put on. This governs double acc., and in passive one acc. He is clothed in or into (*εἰς*) a garment filthy on the skin. *χροτ'*, dat. of contact.
192. Observe *τεθαλυῖά*, in form the same as *τετλήσσι*. *θέρους*, summer.  
*ὁπώρα*, autumn.
193. *πάντρη*, adverb, everywhere.  
*γουνὸν* of *γουνδς-ου*, fertile land, a nook.  
*ἀλωῆς οἶνοπέδοιο*. *ἀλωῇ-ῆς-ῆ*, Ion., place of vines. *οἶνόπεδος*, vine plain.

194. φύλλων κεκλιμένων, perf. part. pass. of κλίνω, I bend, recline.  
 χθαμαλαί...εὐναί, bed, ground, low. χθαμαλός is from χαμαί, on the earth. χθαμαλός, low.
202. σὸς.....πόθος, thy want, long because of thee. πόθος is desire of what we have not, desiderium.  
 μήδεα, pl. τὰ of μήδος-εος, care for thee.  
 ἀγυνοφροσύνη, gentle thoughts for thee. But here Edginton has translated well, and given the meaning. These are nom. to ἀπηύρα, which is from ἀπαυράω, I take away, deprive, and 3rd. sing. imperf. or 2 aor., said to be.

Take the following words and tell the meaning of them:—αὐδήεσσα; ἀγυιαί; πείραθ'; δῆμον; ἥρι; ἀκτίνεσσιν; δειλοῖσι; χῶρον; πυγούσιον, and its root; τέγος; τυτθόν; μῆνιμα; φάσγανον; ξίφος; κούλεῶ; ὑπερφιάλους; κελαινεφές; χρεῖω; ἱππῶλον; ἰοχέαιρα; ἀτρεκέως.

Give the meaning of the following phrases:—

βαλερὸν κατὰ δάκρυ χιόντες. ἐπὶ δ' ἄλφειτα λευκα πάλυνον.  
 τῆς δὲ πανημερίης ποντοπορούσης. ῥέε δ' αἷμα κελαινεφές ἄλλοθι ἄλλος.  
 νῆα μὲν ἐνθ' ἐλθόντες ἐκελσαμεν.

Did you see θεός in any other gender than ὁ? and if so, give the words.

Who or what is Æaca?

What does ὁπότε κε πρῶτον πελάσῃς ἱεργία νῆα mean? How translate the verb? What is its force?

ἰοειδεα πόντον, what is the adjective meaning?

What part of verb is each of the following:—ἴσαι; δίζῃαι; πελάσῃς; εὐρητε; ἱάας, did you come on a shortened form of this? and what? αφικῃαι; χεῖται, and give the word which follows? and the line? if you can.

διμύξας, what part, and what its present?

Distinguish between κίων and κιών.

What does ἀτερεπεία χῶρον mean?

Who is μάντις ἀμύμων in this book?

What two meanings has σῆμα in this book?

Distinguish between γήρας and γέρας; and give dat. of γήρας.

What does φθίνουσι νυκτες mean? and what kind of verb is this?

What part of what verb is ἀλάλημαι.

Give full Greek for "Into the house of Hades."

## CORRESPONDENCE.

*[Although responsible for the insertion of the following communications, the Editor does not necessarily agree with all that is stated therein. Nevertheless he does not feel justified in simply inserting such notices as agree with his own opinion, but wishes to give fairly and without bias the opinions held by different members of the profession. A vast amount of good must ensue from the consideration of various questions intimately connected with the well-being of all engaged in tuition. The Editor, therefore, will be glad to receive any communication upon subjects connected with scholastic affairs, and if of sufficient importance will insert them in future issues of the Journal.]*

## WRITING.

*to the Editor of the Quarterly Journal of Education.*

SIR,—The Lord Mayor, in speaking of writing at the Middle Class Schools, has, with the characteristic acuteness of "an old mercantile man," put his finger on a blot in our educational system which has a deeper significance than at first sight may appear. It is to be regretted that such criticisms too frequently pass away without bearing much fruit. With your permission, I will offer one or two remarks on the causes of the evil complained of, which may possibly suggest a remedy.

In the first place, the men to whom the teaching of writing is often committed, bring to their work but two qualifications—they are unable to teach Classics and Mathematics, and they can write "a good hand," *i.e.*, a *copy-book hand*.

The writing master holds an inferior position, and his work and himself are more or less depreciated by the boys, more especially those of the upper forms. Secondly, the principle (the only one) upon which writing is taught is founded on a fallacy. It supposes that imitation is instinctive. The pupil, from the outset to the end of the chapter, is told to copy this or that, and he is supposed, by a *mere act of volition*, to be able to do it. As opposed to this I contend that the teaching of writing consists of two processes—first, getting the pupil to form a clear, a firm, and an accurate mental image of a given form; secondly, getting him to transfer this mental image to the paper. Now, since the given form has, so to speak, to pass *through* the mind, both these processes are intellectual, the former eminently so. It makes a severe demand upon attention (the most important and extensive element in the so-called faculty of memory), it appeals strongly to the imagination, it cultivates judgment, it stimulates constructiveness. To teach this subject well is not beneath the ambition of a well-educated, a well-informed, and a trained teacher. Indeed there is scope for extensive illustration, and opportunity afforded for developing the elements of fitness and beauty. To teach writing in this way would engage all the powers of the master and of the most advanced pupils; and the combination of the mental and mechanical would, as a relief to severer studies, possess such a charm for the pupil as only those know who have fairly tested it. The discipline gained in such a course would be of incalculable benefit to other studies. It will be seen, that this theory is not less opposed to the practice, in many private schools, of wasting years of valuable time in getting a bad *imitation* by a vicious process with no new *power* bestowed, than it is to the utter contempt with which writing is treated in most of our great schools. The remedy is obvious. But it is one which must be applied to other subjects as well as writing. How much of anything that is taught is taught on intelligible and on ascertained principles? That is a question the public is preparing itself to answer, and it is to be hoped, will answer before long.

I am, Sir, your obedient servant,

Oxford House, Chelsea.

C. H. LAKE, B.A.

## PUNISHMENT.

*To the Editor of the Quarterly Journal of Education.*

SIR,—I have read with much interest, in your last number, a letter from "A Teacher," who, writing on school punishments, alludes to one of my books. As I have thought a good deal on the subject, may I be allowed to add a few remarks to his.

Of course, I am not responsible for the opinions and practices of a fictitious character, but I think I may say that I approve of "Mr. Jardine's" different ways of treating *mala prohibita* and *mala in se*. I know that many schoolmasters do not approve of such a distinction, as seems to me, not wisely. The boyish nature of a boy impels him to some small offence or neglect which would be innocent but for necessary laws of school discipline, and is punished more or less severely according to the temper of his master or the amount of annoyance inflicted on him, is given to understand that he is a "bad boy," is perhaps told that his conduct is "disgraceful." What is the consequence? The boy, thus animadverted upon for a fault which comes from no real depravity, has his ideas of right and wrong confused. He assents to the master's morality while in danger of his cane; this fear being removed, he dissents from the teaching which unites whispering in school and lying as sins, and learns to look upon the master as a ruler not to be respected but to be feared, and if possible, cheated. A little sympathy with his nature might have won him to the right side; a little indiscriminating harshness has perhaps led him to consider opposition to discipline pardonable, if not necessary.

There is a strong reaction now-a-days from the severe punishments of former generations. I believe that this is right in principle, wrong in the effect it is producing. You cannot expel nature by the cane; you may assist her. We are learning the first of these propositions; the second ought to be better understood. There is no real kindness in foolish indulgence. We must take care that we do not substitute anarchy for despotism. I am given to understand that in many schools the assistant-masters are not allowed to punish boys at all, and that the head master discharges this function in an irregular capricious way, which does as much harm as good. It has been noticed that the Olympian thunderbolts are more frequent and more deadly after a conjugal dispute with Juno, or an unpaid vow on the part of impious "parents." The result of this kind of discipline must be a state of chronic rebellion under a thin crust of fear. No real kindness to or right management of boys is possible, unless under a constantly strong and just government.

This being secured—that laws must be kept, and that disobedience is certain to be punished, I would treat the offences of boys in two different ways. If a boy did anything wrong, was mean, selfish, or dishonest, I should visit him with the utmost reprobation. I should give him to understand that he had disgusted his master, disgraced his school or form, and dishonoured himself. This I could do, if I could win his own respect and the sympathy of his companions by treating their ebullitions of carelessness or thoughtlessness without any display of anger or severity. If need were, I should punish this culprit severely, for the sake of deterring others; but I should not trust much to punishment for his own benefit. No one can be made good by punishment; if you make a boy do right from pure fear, you simply substitute one vice temporarily for another.

As for the other class of offences to which I have alluded, I should none the less forbid and repress them, but in a different spirit. To a boy who had forgotten a rule or neglected a command, I should say in effect: "I was a boy once, careless and forgetful as you are. I am wiser now and know that

it is well for boys and men to obey rulers, and I trust that you will believe me in this. I know that you don't wish to disobey me, that you start with a desire to please me, but I know from my own boyish days how weak your will is, and how forgetful and thoughtless your mind; improvement in these respects will, let us hope, come in time to you as to me, in the meantime you must try to do as you are told, and if you fail, behold some salutary means by which my own youthful irresolution has been stimulated." I should then use the means which Solomon and other writers have indicated as useful in such cases, but in a complete spirit of good humour on my part, and, I should hope, on the other. I should no more expect anger on either side than I should in the case of a mother who brings a nauseous, necessary potion to the bedside of the darling of her heart, and stands over him, and exhorts him to take it down and have done with it. If any temper be shown under these conditions, it is more likely to be on the side of the master than of the boy.

I should go further, if I could trust the disposition of the boy and the authority of the discipline of the school. I should let him choose the manner of his own punishment. And in such cases it will generally be found that boys, not young gentlemen, would be inclined to make choice of the old-fashioned *palmies*, if there be any dominie who still upholds the doctrine *palmas qui meruit, ferat*. But very many teachers are too humane and dignified for this sort of thing now-a-days. We are kind to our boys, and punish them by weary hours of detention and weary pages of scribbling, which is perhaps better for the master, but not, I think, for the boy.

The principle on which this plan rests is, that boys, as a class, do not do wrong wilfully, but from weakness of purpose, which in a mass of boys makes strength exerted in the direction of evil doing. The result of it, if properly carried out, will be that boys will look upon their master not as a snuffy old hypocrite to be obeyed or cheated, according to circumstances, but as a friend, a leader, and a real teacher. If this result does not come about in any individual case, there must be something very wrong in the boy—or the master.

Your correspondent very naturally suggests that the difficulty in carrying out any system of discipline lies in the master's variable mood and temper. We all know it is so; we must all try that it may be otherwise. Here is the root of the matter. In spite of all that we may hear now-a-days about Prussian systems, and French systems, and other systems, I believe that the result of a boy's education depends not so much on the cleverly devised instructional machine which you can make for his benefit, or on the number and stiffness of the examinations through which you can cram him, as on the earnestness, and sympathy, and common sense of the man who is trusted to mould his character and call forth his abilities.

I may not have explained my views fully or clearly enough, for it is difficult to do so in such short space as a letter affords. But I shall be glad to see any correspondence on this or another side of the question, and I think, sir, that you will do a great service to the scholastic profession by opening your columns to such discussions.

I am, &c.,

28, St. James' Square, Edinburgh.

ASCOTT R. HOPE.

P.S.—Your correspondent alludes to the German books on the pedagogic art, which are, I believe, almost peculiar to that country. Why is no translation of such books undertaken?

## LONDON UNIVERSITY EXAMINATIONS.

*To the Editor of the Quarterly Journal of Education.*

SIR,—As the Midsummer examinations are approaching, it may be serviceable to intending candidates to know a little about a handbook entitled "A Guide to Matriculation and Graduation," prominently advertised in the University Calendar. It purports to be from the pen of a "graduate first in honours of the University;" but his name is withheld. While giving a general notion of its contents, I shall offer some hints bearing more directly on the First B.A. examination of July next. The book first takes up in succession the consideration of the numerous subjects on the matriculation syllabus; hints, generally to the point, are given; handy formulæ advanced; and text-books are, for the most part, judiciously recommended. Newth's "Elements of Natural Philosophy" is said, however, to suffice for that subject. The experience of some who ground up Newth very thoroughly, but in vain, for the last June examination, is the best contradiction to that recommendation. Under this head and several others, the writer of an article on matriculation in the "Assistant Master's Journal\*" for June, 1869, is a much safer guide, and to him I take the occasion to express my personal indebtedness for his seasonable suggestions. On English, the author of the "Guide," the Rev. M.A., is rather prolix; pp. 42-50 might have been profitably omitted; in fact, the most of what he says on the subject should be skipped by those who possess Dr. Latham's Handbook, or Dr. Ernest Adams' "Elements of English" (Bell & Daldy), in either of which all that is needed is set down more lucidly. I can state from experience that Adams' book and Morell's "Analysis" contain everything essential for English at matriculation. So far as they go, the paragraphs on classics are worth noting, the author's most distinctive point being his approval of the use of good English translations of the prescribed classics, comparing the Latin and Greek with the translation, sentence after sentence, as the student works through the original, for the double purpose of removing difficulties, and confirming his view where the text seems plain enough.

Passing on to the First B.A. Examination, it will be convenient to consider shortly all the heads of examination as they appear on the syllabus.

Arithmetic.—It is essential to have a thorough mastery of Stocks, Square and Cube Roots, and Fractions, especially Decimals, for all of which Colenso's Arithmetic is quite sufficient; and it may be added that questions in any of the other rules are but rarely set.

Algebra.—The syllabus enumerates the branches of this study in which proficiency must be shown; so the candidate has enough to guide him in working up these parts from the books of Colenso or Todhunter, the latter of which is perhaps preferable for two reasons—first, because the author is one of the examiners, and second, because some of its explanations (as, for instance, in ratios and proportions) are more explicit than Colenso's. Some neat methods of solving questions in these rules are given in the "Guide" under review, *e.g.*, p. 12:—

$$\text{If } \frac{a}{b} = \frac{b}{c} = \frac{c}{d}, \text{ prove that } \frac{a^3}{b^3} = \frac{a}{d}.$$

$$(1) \quad ac = b^2$$

$$(2) \quad bd = c^2$$

$$\text{Dividing (1) by (2) } \frac{a}{d} \cdot \frac{c}{b} = \frac{b^2}{c^2},$$

$$\therefore \frac{a}{d} = \frac{b^2}{c^2} \times \frac{b}{c} = \frac{b^3}{c^3} = \frac{a^3}{d^3}.$$

\* A few copies may be had from Mr. Allman, price 6d.

Geometry and Conic Sections.—Todhunter's "Euclid" (Macmillan), and Hunter's "Conics" (Longmans), cover this part of the examination. In getting up the Geometry, it is very essential mentally to link together the successive propositions in the order they assume in Euclid; the neglect of this inevitably leads to confusion. On conics the Rev. M.A. says, p. 72, "We would recommend that the same symbols should be always used uniformly to denote the same things, (thus, in the straight line,  $a$  and  $b$  may represent intercepts on axes;  $\alpha$ , the angle which straight line makes with axis of abscissa;  $\theta$  the angle with axis of abscissa of a perpendicular on line from origin, &c.) and not, as is the usual practice, to indicate different lines or angles under different circumstances."

Plane Trigonometry.—The first 120 pages of Todhunter's "Trigonometry for Beginners" furnish all the essentials for this subject. A few mnemonical helps, easily carried in the memory at an examination are given in the "Guide," such as at p. 66:—

$$\begin{array}{ccc} \text{sine } 30^\circ = & \left| & \text{sine } 45^\circ = \right| & \text{sine } 60^\circ = \\ \frac{\sqrt{1}}{2} & & \frac{\sqrt{2}}{2} & \frac{\sqrt{3}}{2} \end{array}$$

from which the co-sine tangent, &c., can be readily derived. I consider the mathematical part of the book the most satisfactory.

Latin.—Our author supplies no information whatever on the classical branches of the examination, if the meagre hints under matriculation be excepted. It is true that the difference between the latter and the First B.A. is merely in degree, and not in kind; but notwithstanding, the omission of classics under First B.A. is disappointing. Smith's "Principia Latina," part iv. (Murray), and an advanced Latin Grammar, such as Madvig's or Professor Key's, will amply prepare for the questions in the accidence and for the short translations into Latin. Dean Liddell's "Student's Rome" (Murray), supplemented by a good "Ancient Atlas," such as Butler's, (Longmans), will suffice for Roman history. Of the Latin authors prescribed for July 1st, Horace is one. A handy edition of the "Satires," with short notes explaining textual difficulties and allusions, is comprised in the "Oxford Texts and Notes," (Parker). Satire 5, book i., should be read with constant references to the history and the map, as its famous account of the journey through the Peninsula embraces many features, both geographical and historical, the exact knowledge of which may tell well at the examination. I have found benefit from the use of a note-book for the entry, in regular order, of all such allusions, thus facilitating a rapid and thorough review. As a translation of the Satires, Dr. Owgan's. (Kelly, 1s. 6d.) is cheap, and written in vigorous English. In Livy, the other Latin subject, the utmost attention should be paid to the changes of locality caused by the vicissitudes of the campaign, which should be noted on the map during translation. This is very essential, as probably a chapter of Livy will be given as a test of the candidate's knowledge of Ancient Geography. The same remark applies to the history.

English Language, &c.—For the general subject, the handbooks of Dr. Angus or Dr. Adams may suffice. The reading of parts of Marsh's "Lectures on English" (Murray) forms an excellent addition, should the student have time for it. As to the special subject for 1870, some idea of the line of examination to be pursued for the Faëry Queen will be gathered from the First B.A. paper set in 1868, when the same work was prescribed. Todd's "Complete Spenser" (Routledge and Warne, 10s. 6d.), has copious notes and full glossaries; and I believe Mr. Wright has lately brought out an edition of Books I. and II. (Macmillan, 2 vols., 2s. 6d. each), designed for University



use. For Shakespeare's "King Lear," Hunter's (Longmans') or Cowden Clarke's (Cassell's) would suffice, with occasional references to a book such as Abbott's "Shakespearean Grammar" (Macmillan, 2s. 6d.). I would also recommend the perusal of Macaulay's "Essay on Milton," as an introduction to the "Areopagitica," of which Mr. Arber has a sixpenny annotated edition in his "Select Reprints," and which, I think, would do without additional reference. The Rev. M.A. adduces the following points as most important in preparing the special subjects :—

"(a.) The meaning of every part, so that, if necessary, it may be given in paraphrase.

"(b.) Obsolete or rare forms of words,—their derivation, meaning, and history.

"(c.) Special allusions to history, mythology, &c.

"(d.) Phrases which have passed into current use, or which are remarkable for beauty or vigour.

"(e.) Any imitations of other authors, or any similarities of sentiment or illustration.

"(f.) The lives of the authors, the date of their works, and circumstances under which they were written, with the most striking peculiarities and characteristics of their style." pp. 76-77.

Paragraphs (d) and (e) seem to me to be of little consequence in preparing for First B.A. examination, questions demanding such knowledge being rarely put. The remaining points are very applicable.

English History.—"The Student's Hume," (Murray), or Hamilton's "Constitutional History," (Weale's series), will furnish a passable knowledge ; and if Sharon Turner's or Palgrave's works on the Anglo-Saxon polity are accessible, the student will find it for his interest to consult them. The questions in geography require simply clear notions of the position on the map of places mentioned in the history, with a general acquaintance with the rivers and mountain-ranges of Europe.

French and German Translation.—In addition to the accurate grammatical knowledge tested at matriculation, the power of rendering passages of English into French or German is all that is required. As a French exercise book, I use Contanseau's ; but others might be mentioned that would answer equally well. The reverse process, French into English, ought to present no difficulty to one who has matriculated.

In the "Guide," the chapters on the Second B.A. are confined to physics, physiology, metaphysics, and ethics. In mental science particularly, the author's remarks and abstracts ought to prove useful. As before stated, it is matter of regret that he gives no hints on classics after matriculation. Should another edition of the book be called for, it is to be hoped that he will see the propriety of enhancing its value by curtailing the section on English, and extending the classical part.

In conclusion, I need hardly say that most of the books recommended are those I have myself put to the test ; no doubt other books as suitable, perhaps more so, can be had ; nevertheless this communication may afford some stray directions to private students.

Yours, &c.,

A STUDENT.

#### A SUGGESTION FOR PUBLISHERS.

AMONG the inconveniences to which schoolboys are subjected whilst preparing certain lessons, the trouble of looking up words in the vocabularies placed at the end of the book they are studying, is one. For instance, White's "Valpy's Delectus," and Dr. Smith's "Principia Latina," part ii.,

have the vocabulary at the end, and such is the case with very many Latin and French school books. Vocabularies so placed are very awkward and inconvenient to use. If a grown up person will try to use one of these books for half an hour or so, he will soon feel the bother of them, especially if he writes the meanings of the words down as he finds them out, just as boys are often required to do.

Is there no means of making matters better in this respect? There evidently is. If publishers or authors would have these little vocabularies issued apart from the book to which they belong a remedy is at once provided. The additional expense would be but small, for all that is necessary is to have the vocabulary stitched in a slight cover, and an elastic band or a pocket placed on the cover of the larger book, to which this smaller portion could be fastened, or placed into when not in use.

Many a schoolboy would be glad if such a plan were adopted—and it is always as well to remove needless discomforts out of the student's way, be he old or young.

T. S. G.

### SUNDAYS AT SCHOOL, &c.

THE following extracts from a letter may perhaps have some points of interest to those who have the care of the young, as they touch upon important subjects—the writer says :

"It is a great many years since I had anything to do with schools, but my reminiscences, such as they are, are at your service. . . . I have often felt that there is something very still and pleasant in the English Sunday, and that noisy games are not allowed is delightful. But we all know that verse of Dr. Watts' which says—'Satan finds some mischief still, For idle hands to do.'

"I never found boys so difficult to manage as they were on a Sunday, and just because they had nothing to do. The sexual propensities (I must speak plainly) were always strongly developed on a Sunday. It was necessary to watch the boys, or they would be up to tricks. The force of nature is stronger than grace, but to counteract this natural impulse there is nothing like occupation. On Sundays the boys had nothing but their Church, their catechism, and their *good books*, but boys hate nothing so much as the books falsely called *good books*. Why should a book be called by preeminence a good book? Why should not boys be allowed quiet games, instructive books, voyages, travels, drawing, painting? Can there be no reform in these matters?

"But a word for gymnastics and drilling. There is a book called 'The Gymnastic Free Exercises of Sing,' which will give you some good hints on this matter, but the best book on the subject is one called 'A System of Physical Education,' by Maclaren, though this enters too deeply into it for any except the highest class schools, or those large public schools where they can afford to pay teachers to train and drill the pupils. However, do what you can—get dumb-bells—pieces of wood—make the boys do something or other. Don't keep them sitting every day for one, two, or three hours at a stretch without letting them exercise their muscles in some sort of way or other. I must confess that there is no great hope of my ever seeing much improvement in this respect in boarding-schools as they are at present conducted. I think they all ought to be put under inspection just as jails, lunatic asylums, or factories are." . . . "I have often written to you about collections. Every school should have its collection of objects. The simplest object has its worth. Shells, minerals, &c., are all interesting to young people. If you once begin, you will be surprised to find how things come in almost without your knowing it. Boys themselves are like hunting dogs when they once

begin, and have a kind of instinct for finding curious and interesting objects. Granites, marbles, ores, various fossils, can often be procured without any great difficulty. Skeletons of birds, mice, fish, &c., might also be set up and explained to the children. If the collection be a medley that is no matter. The curiosity of the children is to be raised, and hence they will be led to take an interest in objects and things." I conclude these extracts, hoping some writer will more fully expand the topics here briefly alluded to. T. S. G.

### BAD REASONING IN EUCLID.

IT is now pretty generally acknowledged, that Euclid's "Elements of Geometry" do not afford the best possible means for teaching the facts of that science with ease and expedition. With many, however, that work is still a favourite, on account of its supplying examples of good logical reasoning. Generally speaking, it does this, but even in this respect there are some blemishes and inconsistencies in it, and I think it will be well to consider some of these, since exposing bad reasoning is as useful as giving examples of good.

I propose here to examine two points. The first is the well-known one of Euclid's treatment of parallel straight lines, with which Simson and others have been dissatisfied. These lines have two chief properties. The first is, the evenness of their distances at all parts; the second, their forming the same angles with any line that meets them. Of course these two properties have a necessary connection, and it would be most in accordance with Euclid's general procedure, to embody one in the definition of parallels, and deduce the other therefrom. But what he really does is this: he takes the subordinate fact (subordinate, that is, to the main one of the evenness of their distances) of parallels not meeting, as the basis of his definition; and then, by his twelfth axiom virtually *assumes* that any straight line meeting two parallels will make the interior angles on either side of it not less than two right angles. Of course this is a fact; but one question is, whether this fact is one which would be *self-evident* to any person of ordinary intelligence who was acquainted with Euclid's definition of parallel straight lines. Certainly it seems inconsistent to take some trouble to prove that two sides of a triangle are greater than the third, and then to assume as much as this. Again, if the necessary co-existence of the two sets of properties (those namely with regard to distances and angles) could not readily be proved by reasoning, and had to be assumed, it would certainly have been better to assume the main principle of each; even were it not the case, that these principles are more readily apprehended by the judgment than the subordinate facts.

But the main point is this, that in the twenty-ninth proposition there is what looks like a little hocus-pocus. Certainly Euclid there argues in a circle; for, as the four interior angles which any line meeting two parallels makes with them, are only equal to four right angles ( $13-1$ ), and the two on either side have been assumed to be not less than two right angles, it follows, *directly from the axiom*, that each pair must be equal to two right angles. From this, the equality of the alternate angles, and of the exterior to the interior and opposite on the same side of the intersecting line, might easily be proved. Instead of this, Euclid uses the axiom to prove, in a somewhat indirect manner, the equality of the alternate angles, and then *goes back* to deduce *from this*, that the two interior angles, &c., are equal to two right angles. I can imagine no other reason for this roundabout method of proceeding, than an instinctive wish to evade the fact that this result is *almost identical with what is assumed in the axiom*.

We will now pass to the Corollary to the eleventh proposition of Book I.—

That "two straight lines cannot have a common segment," is as much an axiom as that "two straight lines cannot enclose a space," or, that "all right angles are equal." In fact, if any one of these statements requires proof, it is the last. The other two are based upon Euclid's definition of a straight line. For if two lines diverge, and then again converge so as to enclose a space—or if they keep company for a time and then diverge—it is manifest that they cannot both lie evenly between their extreme points, but that one of them at least inclines towards one side. But the axiom that "all right angles are equal" expresses a *subordinate* fact. It *necessarily presupposes* that no two straight lines can have a common segment. If it were possible for them to have one, the perpendicular (according to the tenth Definition) to the one line at the point of separation would not be perpendicular to the other; there would be two perpendiculars, and two *unequal* pairs of *right angles*. The reason that this cannot be the case is, that "two straight lines cannot have a common segment." In using the eleventh axiom to prove this truth, Euclid is really putting the cart before the horse. Besides, if two straight lines could have a common segment, what are we to think of the cases (occurring previous to this corollary) where we are told to apply one straight line to another, and where it is assumed, that if equal they *must* coincide? This assumption excludes the possibility of the two merely having a common segment. It is therefore *inconsistent*, as well as unnecessary and absurd, to attempt to prove that this is impossible in the way that Euclid has done in this corollary.

J. M. K.

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#### ON THE TREATMENT OF ASSISTANT-MASTERS IN MIDDLE-CLASS SCHOOLS.

To the Editor of the *Quarterly Journal of Education*.

SIR,—Is it true that Assistant-Masters have "nice times of it?" Such seems to be the prevalent opinion, and it is our aim in this paper to show that it is an erroneous one. True, in some places they are treated well, and are on the whole very comfortable, but in the majority of instances their residence in an educational establishment is anything but agreeable. Some have endeavoured to picture the discomfort to which they are subjected in a work of fiction; this, however, does not answer the desired end, for the public are ready to say the matter is overdrawn. In this paper we shall therefore confine ourselves to fact, and refer to no incidents in proof of our assertions but such as have actually occurred.

In the first place, they are often provided with but very indifferent lodging. Where an assistant has not had the precaution to stipulate for a separate bedroom, he may be required to sleep in the same room with half a dozen or more boys. Or he may have a part curtained off (commonly called a "cubreal") from the general dormitory of the pupils. But suppose he has a room to himself, which perhaps is mostly the case. Let us take a survey of this apartment as the assistant enters it for the first time. It is situated in the highest story of the house—the garret. As the top of the room slopes with the roof, it is only in half of it that he can stand upright; the walls are covered with a dirty paper showing an evident inclination to peel off; there is a washstand, but no towel or towel rail; a narrow strip of carpet is laid on the side of his bed, but there is no chair; though he has the luxury of a feather bed, the feathers in it are so few in number that the iron bottom of the bed is distinctly felt through it, and he rises in the morning unrefreshed and with aching limbs. Doubtless a look-out would tend to draw the mind

from its misery, if there was what is called "a good view" from the window ; but how the heart sinks when the only thing presented to the eye is the stable-yard of a low pot-house !

And this uncomfortable state of things is frequently made worse by the careless way in which the attendance to the sleeping-room is left to the servants. They, seeing that principal's wife or housekeeper does not make it her daily business to see that the room is properly "tidied up," pay to it what attention they think fit, and at the time most suited to their own convenience ; and so it happens that an assistant going to his room at noon, or even in the evening, finds it in precisely the same state as he left it in the morning. So great is the carelessness sometimes in this respect that a single towel has been left in the room for the assistant's use for a complete month.

Again, it is presumed they have "nice times of it" from the time they are supposed to have at their own disposal. But in addition to the regular schoolwork, be it remembered, there is the superintendence of the pupils in the playground, which may fall to a man's lot to take every day, in which case he is fully engaged from the time the pupils rise in the morning to the time they retire at night. An assistant generally has to take this "play-ground" or "policeman's" duty every third or fourth day—but it is not of this we wish to speak at present, but to enquire if their comfort is at all increased by having time at their own disposal. In their leisure hours do assistants always wish to be walking out or idling about in the school and playground ? They certainly require a sitting-room. In one establishment the sitting-room was so low and damp that the assistants could not make use of it even in summer. In another case, the principal told his assistant (he kept but one) that he would always be welcome to sit with the family. In the winter, however, he was not asked to draw his chair nearer the fire than the table in the middle of the room, where he had had supper, while "the family," four in number, drew their seats round it in such a manner that, though frequently shivering with cold, an occasional glimpse of the fire was all that he could obtain. Occasionally the only place an assistant can use as his sitting-room and study is his bedroom, and, considering the state in which they are sometimes left, that is far from being pleasant.

And this last even has been in one instance at least denied—a principal refusing to allow his assistants to sit in their bedrooms by day on any pretext whatever.

While on this part of our subject we may also remark that they are often subjected to unnecessary restraint or confinement. Some principals make their domestic arrangements such that it is next to impossible for the assistants to have any enjoyment of their hours of recreation. This is caused by the time being "split up" into small portions. Attendance at every meal is compulsory. On *one* half-holiday dinner comes an hour later, and on the *other* tea much sooner than on other days. All the assistants must be present when the pupils retire, though the presence of *all* is not really needed. Again, no one knows to an hour when the supper-bell will ring, and yet all must be ready to obey its call. They may not want any supper, they may wish to study, yet go they must, and spend some three-quarters of an hour there, often in perfect silence. A French master once broke this rule, and went to see the German master, who resided in the town. Returning at *five minutes past ten*, he rung the bell for admittance, when principal came to the door, but seeing who it was, he slammed the door in his face and locked it. Gentlemanly treatment ! (?) and such as the poor fellow deserved for having been deceived by his friend's clock, and come back five minutes behind the time. "Gentle is, that gentle does." A man is ever known by his deeds. In one school the assistants had supper with a few of the

elder boys, and principal, locating himself in an adjoining room, from time to time applied his ear to the keyhole to catch their conversation. The custom of another (since retired) was to take a survey of the contents of his assistants' desks (which could not be locked) whenever an opportunity presented itself.

Notice also the manner in which some principals tyrannize over the junior assistants in their schools, while they treat the others with respect and kindness. Of course, senior masters are entitled to be treated with more confidence, and perhaps even to have more comfort than those who have had less experience, but we think in the performance of duties which both have to do, the same rules should apply to both. Yet such is not the case. In a certain school in the North, when the senior master was "on duty," the principal gave him the daily paper, which he could either read at his desk or with the boys in the playground—the boys required very little attention. But mark the difference in the attention required next day when the junior was "on duty." He must be constantly with them, and so among as to overhear their conversation; and as for looking at a book or being one minute at his desk it must not be thought of. Such strict *surveillance* was the junior required to have over the pupils, while the senior, who was receiving about five times as much salary, could perform his "duty" almost as he liked. And how very pleasant it is for the junior assistant to be accosted by one of the pupils thus: "How is it, sir, that when you are on duty Mr. P— makes you always be in the playground with us, and lets Mr. B—, on his 'duty-day,' sit and read the paper at his desk?" On one occasion, the junior assistant having just rung the bell for the pupils to come in to lessons, sat down at his desk. Principal just then coming into school said, "Mr. M—, I must have you out with the pupils." "I have just rung the bell, sir, and they are coming in." "I *must* have them attended to in the playground;" and so, though many were already in the school and heard this conversation, he had to go out again till the last one was in his place. In the same school the arrangements were that lessons should be prepared during the first half of the time allotted to each, and heard in the second part. Now what could the masters do during the time for preparation? The two seniors were allowed to read, but the junior was obliged to sit and watch his class. Those boys *did* require *so much* attention! Through his playground duty in winter time, an assistant caught a severe cold. What was the use of taking any remedy when he was continually obliged to leave the warm room, heated with teaching, to walk about in the cold playground. The night previous to the departure of the pupils for their Christmas vacation, however, he had a medicine prepared, to cure that cold, and it is well known that such a medicine would require him to be kept warm for at least the following day. It was a cold December morning; principal and the senior master were going with the pupils, and the latter was then with them. Principal knew that the junior master should be kept warm, and yet insisted on his taking his usual post in the playground, and the consequence was that the cold became so much aggravated as at one time to threaten his life. Private circumstances placed that assistant in a certain sense in the principal's power—the latter knew that power, and loved to display it. The way in which many principals seem to teach their pupils to respect the assistant-masters is by constantly finding fault with the latter while with their class. Instances of this are, as the auctioneers would say, "too numerous to mention." Another grievance is in connection with the food supplied to assistant-masters. There are some schools (though we believe the number is rapidly decreasing) where *sufficient* food cannot be had, to say nothing about its quality. One assistant

assured us that he should have starved, had he not gone once a week to dine with his brother, who resided in town. In a large town in the county of Y— was a small school, where the family, assistant, and pupils had their meals together. A fixed amount of bread and butter was supplied to the assistant and each pupil at breakfast and tea—and they were never asked to take more than their fixed allowance of either tea, or bread and butter (meat to breakfast was a luxury never thought of). By some means the assistant managed to have his bread cut a little thicker, whereupon principal told him it was not “gentlemanly” to eat it so thick! At dinner the same economy was practised, and both pupils and assistant, being unable to appease their hunger with the quantity of dinner allowed them, were accustomed to send for bread and cheese from a neighbouring shop.

In conclusion we will briefly refer to the fact that many principals of schools, in common with other employers, are accustomed to make great misrepresentations when engaging the services of assistants. One said that his assistant's presence would be required in school eight hours a-day. The school hours really were from six to eight, from nine to half-past twelve, from two to five, and from six to seven! Assistant is told that his playground duty will be “comparatively trifling,” while principal knows at the time it will be just the reverse. Twenty times in as many minutes is an assistant told he will have a comfortable *home*, and be treated as one of the family. And what is the real state of the case when the assistant has taken up his abode in that comfortable home—(alas! how different from the loved home of his childhood!)?

As one of the family, forsooth! And yet because a governess is the daughter of a respectable tradesman, and not a “lady-born,” she is told she can't be allowed to sit in the parlour with the family, but must spend her evenings in a little room alone. As one of the family! and yet (more degrading to an assistant than ever!) there are two kinds of food—one for the family, and one for him. While the family have what is called “fresh butter,” the assistants sit down at the same table and have bread covered with a buttery-looking substance which by its filthy smell excites loathing and disgust.

Why these things have been endured so long, we know not. But it is certainly time for assistants to take such steps as will secure their proper treatment in the future.

N. Y.

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## OUR BOOK-SHELF.

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*An Elementary Physical Atlas*, Second Edition. By the REV. J. P. FAUNTHORPE, B.A., F.R.G.S., Vice-Principal of the Training College, Battersea. E. Stanford, 6, Charing Cross, S.W.

“UNDOUBTEDLY, the best way for a student to familiarise himself with a knowledge of the physical features of a country, is by frequent map-drawing,” (*vide* introduction). This is quite true, and we should be glad to see the system extended. Excepting pupil teachers, and National and British schoolmasters, we believe no students undergo a thorough systematic course of training in this subject. The hints given in the book before us are excellent. The number of maps engraved is nine, including the World, on Mercator's projection; the Continents, the

British Islands, Palestine, &c. We cannot speak in too high terms of the manner in which the maps are engraved, and heartily recommend the Atlas to all students.

*School Museums; with Suggestions for their Formation.* By W. E. BAYLES. H. West, 27, Darnley Road, Hackney.

THIS little *brochure* is evidently written by a gentleman who thoroughly understands his subject, and merits the most careful consideration of all engaged in tuition. By the aid of a museum, "information forces itself imperceptibly into the mind, and it is just that kind of information which tends most to expand one's conceptions." We believe, with the author, "that it might be possible for *every school to have a museum of its own.*" The pupils will always gladly assist in the formation, and it is wonderful the number of valuable articles they will collect. Fossils, eggs, botanical and ornithological specimens, will soon make a good show, and in the collection and concomitant inquiries, much information will be gained. Why should not every town, if not every school, have a local museum?

*Theological Colleges and Cathedral Reform.* By the REV. G. W. PENNETHORNE, M.A. J. Parker and Co., London and Oxford.

WITH great clearness and brevity our author shows that, whilst the learned professions require a special training after that received at the University, the church requires none. He therefore concludes that theological colleges are necessary to supply this want, for the instruction received upon theology and similar subjects at Oxford or Cambridge, is very little.

*The Method of Teaching Physical Science in Schools.* By the REV. W. TUCKWELL, M.A., Head Master of the Taunton College School.

WE have here another opinion as to the method of teaching science in our schools, and it deserves greater attention from the fact that Mr. Tuckwell speaks from experience.

*Hours in a Swiss Class-Room.* By AN ENGLISH SCHOOLMASTER. Bickers and Son, Leicester Square.

WE have here a comparison, and also a criticism; the former between the Swiss and English methods, the latter on the Swiss routine. Could any stranger speak in such eulogistical terms of English scholars, as the author does of the Swiss in the following extracts:—Of the class-room, he says:—"The floor is perfectly clean, and free from torn paper or traces of ink. . . . I saw and handled school books in different forms, and I did not find a blot or a scribble in any of them. . . . Once only, and that from the "Sixth Form" room, I heard a very audible signal whistle—the pupils were by themselves—as I walked along the corridor with the professor." Altogether our "schoolmaster" gives praise to the pupils regarding discipline, and attention, but remarks that they do not possess the "physique" of the English school-boy. To sum up, he gives a remark made by a friend—"We have abundance of instruction, and excellent of its kind, but very little education." The remarks seem to be perfectly unbiassed, and may profitably be read by all.



*Methods of teaching Arithmetic.* A Lecture to the London Association of Schoolmistresses. Price 6d. By J. G. FITCH, M.A. E. Stanford, Charing Cross.

THE aim of the lecturer throughout is to show that the teaching of Arithmetic is too mechanical, there being too little of theoretical explanation. We cannot coincide with Mr. Fitch's conclusions, when he says—"Beyond the simplest additions and the power to check the items of a bill, the arithmetical knowledge required of any well-informed person in private life is almost nothing." However our differences will turn upon the interpretation given to the latter clause of this extract—"checking a bill"—what part of Arithmetic is required? Fractions, Proportion, and Interest strike us at once as of paramount importance, his inference being that only the simple rules are required. His system of teaching, on the other hand, meets entirely with our concurrence, and we hope to see it extensively adopted.

*How to Paint Magic Lantern Slides.* Price 6d. By A. N. RINTOUL. Brodie and Middleton, 79, Long Acre.

THIS little work will prove a good introduction to larger and more elaborate volumes. It is well for amateurs that Mr. Rintoul has studiously avoided, where possible, the use of technical expressions. He leads the pupil by short and easy steps, from the mere outlines to the finished pictures.

*The English Language, its Grammar and History.* Second Edition. By the REV. H. LEWIS, Lecturer at the Training College, Battersea. E. Stanford, Charing Cross.

WE had occasion to mention this volume on its first appearance. The additions which have been made to this edition add greatly to its value. If we state that we ourselves have adopted it as the text-book on grammar for our pupils, it will show our opinion better than by mere words.

*Murby's Scripture Manuals. (Ezra, Nehemiah, Esther.)*

THIS little book—one of a series—will prove a valuable assistant to candidates for the Oxford Local Examination for this year. For though it is of little use as a book of reference, since the student would gather little new information from it, after having read the text in the Bible "carefully and thoughtfully again and again till the 20th time" (as the author advises in his preface), yet the synopsis of the subject matter is thrown into a brief and compendious form, and the biographical and geographical notes are concise and to the point. All we can say with regard to the explanatory notes, is, that they might with advantage have been omitted. There are only two on Ezra, eleven on Nehemiah, and one on Esther, most of which are decidedly puerile, and upon points of which even the most superficial reader would need no explanation, while several passages of considerable difficulty are passed over unnoticed.

As an analysis, therefore, we can highly recommend this little work,

but as to any valuable criticisms or useful information (with the exception of the biographical and geographical notes), the student of these books of the Bible will find it utterly useless. MAG. COLL.

*Adrift in a Boat.* By W. H. E. KINGSTON. Hodder and Stoughton, 27, Paternoster Row.

WE have here depicted a picnic, at which were two young gentlemen, one a midgy, the second wishing to be a midgy. Strolling along the beach, these two found themselves on a secluded rock, in danger of being drowned. How they escaped from this peril, and had to undergo many strange and wonderful adventures in an open boat, a deserted ship, a raft, a privateer, a West Indian island, we leave our young readers to find out for themselves. The little book is excellently written, prettily bound, elegantly printed and illustrated, making it a very handsome volume, suitable for presentation to the young.

*Ancient Classics for English Readers:* First, 2 vols. THE ILIAD AND ODYSSEY. Price 2s. 6d. per vol. Ed. by the Rev. W. L. COLLINS, M.A., Blackwood and Sons.

THE idea which has culminated in the production of these elegant volumes, is entirely original, meritorious, and in every respect deserving of success. It should be at once stated that we have before us no new translations, but connected narratives, giving the author's plot in prose, supplemented by some account of the ancient writer, and interspersed with specimens of our best translations which in any way help to elucidate the author's meaning. But let the editor speak for himself—he says :—“It is proposed to give in these little volumes some such introduction to the great writers of Greece and Rome, as may open to those who have not received a classical education—or in whose case it has been incomplete and fragmentary—a fair acquaintance with the contents of their writings and the leading features of their style.” The success attained in this attempt will be better understood by perusing the following extracts :—Thus in the eleventh book of the Odyssey, the meeting and recognition of Ulysses and his mother is depicted.

“The shade of his mother has been sitting meanwhile in gloomy silence, eyeing the coveted blood. Not until she had drank of it might she open her lips to speak, or have power to recognise her son. To his eager inquiries as to her own fate and that of his father Laertes she made answer, that she herself had died of grief, and that the old man was wearing out a joyless life in bitter anxiety.”

And further on, in the same book—

“Ulysses confesses that he did not see all he might have seen ; for, when the pale ghosts in their ten thousands crowded round him with wild cries, the hero lost courage, fled back to his ship, and bade his comrades loose their cables, and put out at once to sea.”

Thus does the editor tell the tale, but we would say more of these and other volumes at some future time.

C. H. W. B.

*Nature.* A weekly Periodical of Science. Price 4d. Macmillan & Co.

WE have the first nineteen numbers of this excellent illustrated publication before us, and can cordially recommend it. Every one engaged in imparting or gaining knowledge, should become a subscriber. It contains the latest information upon the different sciences, and an epitomised account of the transactions of our learned societies. We shall describe it at greater length in our next issue, as we are just now cramped for want of space, meanwhile let every reader order a copy for himself.

C. H. W. B.

*Facts and Dates*, or the Leading Events in Sacred and Profane History, and the Principal Facts in the various Physical Sciences: the Memory being aided throughout by a simple and natural method, for Schools and Private reference. By the REV. ALEX. MACKAY, LL.D., F.R.G.S. Blackwood & Sons.

"THE work," says the author in his preface, "is solely devoted to science and history, and mnemonics is merely employed as an auxiliary. It is by no means essential to the plan of the book." We may therefore say a few words upon each of the two characters in which this book presents itself, and regard it, first, as a treatise on science and history, and secondly, as containing a system of mnemonics.

We have here, then, a few pages of astronomy, with tables of mean distances, times of revolution, &c.; a few pages of chemistry, with tables of atomic weights, boiling points, and so on; some geographical and other tables of a similar kind; and, occupying the larger part of the work, a sort of universal history, principally composed of mere lists of events, with their dates attached.

Now, of course, any compilation like this *may* be useful for reference, but it does not appear what else it could be useful for; nor indeed does it appear what there is in this book to render it specially useful even in this capacity, except possibly the bringing together in one volume several different subjects. In what aspect are the tables of dates here given supposed to be better than other historical summaries, whether in the form of tables or otherwise? And why could not the atomic weights of the elements be found equally well in any ordinary text book on chemistry, or what is there to prevent any one who wants to know the area of Europe or the height of Mount Ararat from referring for the information to any ordinary text book of geography? And the book cannot have been intended by the author as an elementary treatise on science, or a book from which to learn history. Science and history can scarcely be learned from tables, and the few pages of introduction or explanation prefixed to each subject are utterly inadequate for any such purpose.

Still, the book is intended to be used in schools; and this being the case, much even of the explanation which is given is ludicrously out of place. Only think of the absurdity of introducing a series of historical tables by an Egyptological discussion, and "some of the peculiarities of the Great Pyramid synoptically considered!" This rhapsody, or some of it, seems indeed not to be the author's own, but contributed by enthusiastic Egyptologists, but it is none the less out of place.

Surely something less uncertain, and less utterly barren and useless might have been contrived "for schools" than a long account of a supposed "astro-chronological" and "other cosmic references" of a pyramid, and of its "standard measure, as having originated national standards," and such like matter. The author had already, in his astronomical tables, given the distance of the earth from the sun, "*as indicated by the Great Pyramid of Jeerch!*" But even some of the "dates and facts" are very strange. Think of a man professing to know that about B.C. 2000 was probably the date of the arrival of the Pelasgi in Greece and Italy; and that Argos was founded in B.C. 1856; or again, that Cadmus introduced the Phœnician alphabet into Greece in B.C. 1551; or, still better, that the *marriage of Helen* took place in B.C. 1216! It is pretty well, too, to give the date at which the Etruscans ("possibly a Teutonic nation!") descend from the Rhetian Alps, &c. Surely "facts" enough might have been found for a small book, without filling up space with fables and conjectures referring to non-historical times.

But of the author's mnemonics we can speak with almost unqualified praise. His system is beautifully simple and easy, and even if the reader should object to some of his applications of it, new ones can readily be made in any case, to meet any want or suit any taste. It would be as unfair to the author to reveal his system as to a novelist to disclose his plot, and we shall not do so. But so far as a system of artificial memory for numbers is useful or applicable at all, we can confidently recommend Dr. Mackay's invention. Of course some doubts may be raised as to the general advantage of such methods of learning or teaching. It may be thought that there is some danger of their becoming mere aids to "cram," of their tending to the substitution of mere mechanical knowledge for real intelligent appreciation of a subject. But even if it is necessary to guard against abuses of this kind, there may still be a legitimate use for these artificial aids to the memory, and it would be unfair and ungracious to deny that Dr. Mackay has devised one, which, within its own range, leaves nothing to be desired.

J. C. V.

*Salient Points of Scripture History, Historical Books.* By E. COOPER. Longmans, Green & Co.

A COMPREHENSIVE little work, well adapted to meet the wants of Sunday school teachers.

*Middle Class Examiner*, 1st Book. 1s. GLEIG'S Series. Longmans, Green & Co.

It is found advantageous sometimes to give pupils a series of examination papers, proposed by a stranger, so as to test the real knowledge of the student. The questions of the master are apt to be confined to too narrow a channel. The Examiner before us seems to answer exactly this purpose.

*The Science of Arithmetic.* By J. CORNWALL, Ph. D., and J. G. FITCH, M.A. Twelfth edition. Simpkin, Marshall & Co., Stationers' Hall Court.

*School Arithmetic.* By J. CORNWALL, Ph. D., and J. G. FITCH, M.A.  
Tenth edition. Simpkin, Marshall & Co., Stationers' Hall Court.

*Lessons in Arithmetic.* By J. BROWN. Dean & Son, Ludgate Hill.

*The Civil Service Book-Keeping. Book-Keeping no Mystery.* By an  
Experienced Book-Keeper, late of H.M. Civil Service. Lockwood  
& Co., 7, Stationers' Hall Court.

SOME of the books in the above-mentioned list have been so long before the public, and are so well worthy of the confidence which has been placed in them that we have simply to state they have reached another edition. The first of these books more especially merits the attention of more advanced scholars. It is not intended, and therefore not adapted for beginners, but those who already possess some knowledge of the subject, will be greatly assisted in their future studies by consulting the excellent definitions and explanations it contains.

The *Lessons in Arithmetic* is a really useful little work, adapted for the youngest students. We have here numbers connected with real tangible bodies, and not with mere abstract quantities, as is so often the case in works of this kind. In actual practice we ourselves often find it advisable to leave out those rules and measures which necessitate the multiplying and dividing by fractional numbers such as  $2\frac{1}{4}$  or  $5\frac{1}{2}$ , till the student is more advanced. An unlimited number of questions may be given to illustrate the measures without including these. Mr. Brown gives the student some idea of simple fractions before entering upon the study of weights and measures, which in many cases is a very good plan. Our author, generally very clear, and emulating Professor Bain in his love of repetition, unfortunately falls into a grave error at the commencement of the volume. He says—

"Suppose it be asked, 'How many are 50 men, 28 horses, 17 hats, 14 pounds of sugar, and 16 gallons of ale?' It is very plain that they cannot be added together," &c. He then goes on to explain, that to add numbers together, they must possess a *general* name. Immediately after this explanation he gives examples of *unlike quantities to be added together*, by giving a *general name* to each; but we would ask, what general name can be given—*so as to make young children understand*—to such things as 13 balls, 9 bats, and 12 wickets; or 161 goats, 1016 sheep, 120 pigs, and 1469 mules. Certainly maturer minds understand that balls, bats, and wickets are *articles*; or goats, sheep, pigs, and mules, *animals*; but a boy would never comprehend this distinction. With this one exception, we think Mr. Brown has performed his work well, and we can confidently recommend his little manual.

We have only to remark that the Civil Service Book-Keeping seems clear and concise, and exactly such a text-book as students require; but after all, book-keeping is best learned in the office. C. H. W. B.



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POLITICAL ECONOMY AS A MEANS OF EDUCATION.

BY PROFESSOR J. E. T. ROGERS.

**E**VERYBODY who writes or speaks about education admits that the success with which it is carried out is relevant to the fulness with which it effects two results. These are the extent to which it gives information, and the precision with which it trains the mind. It professes to assist two powers, the memory and the understanding, to make the mind a storehouse of facts, and to give precision and quickness to its inferences. Now it is probable that no person doubts that the ends of education are those which are stated, but it should also be remembered that the means by which these results are arrived at are multiform, and that they will best succeed in teaching the young who have the skill to select the best aids towards these purposes, and to turn them to account as they deal with individual minds.

It is by no means difficult to train the memory to the performance of great feats, provided the teacher can discover some means of associating objects which shall be easy and suggestive. An ingenious gentleman, Mr. Stokes, has carried this art of technical memory to great perfection. Some of his pupils, mere boys, who have exhibited the results of his method in public, have with the greatest ease and accuracy repeated hundreds of figures, and have recited passages in a way which no unassisted or natural memory could have achieved. Now such an act or such a faculty has a great value, and its exhibition is very showy, but it is thoroughly subsidiary to the true object of education, that of training the mind. People may know a heap of things, may quote dates, facts, with surprising accuracy and abundance, and yet be almost incapable of a logical act. It is to be feared, since the possession of a quick memory is a showy gift, that teachers have much more frequently busied themselves with imparting mere knowledge than with finding the means by which this knowledge may be most usefully employed, and the mind be rendered most capable of turning this material to account.

Fortunately for general education, one of the most useful and necessary parts of it is in the highest sense educational. The science of

abstract numerical quantities, which is called arithmetic, since it supplies the mind with processes by which rapid calculations are to be made, is an absolute necessity for mercantile business. But it is in the fullest sense an abstract science, for it takes numbers apart from objects, and enables the mind to arrive at such conclusions about the proportion in which such numbers stand to each other, as could not be conceived by objects of sense. It is with the greatest difficulty that a savage can be made to extend the narrow ideas of number which his experience has supplied him with, while a quick child can solve arithmetical problems with ease, and would solve them more easily if teachers took greater pains to explain the principles on which arithmetical processes are founded.

On the other hand the immediate utility of the study of geometry is not nearly so considerable as that of arithmetic. It is also a purely abstract science. It has no counterpart in experience, for no physical object of sense corresponds to the definitions which the geometrician gives. Hence Sir William Hamilton asserted that geometry is the highest effort of the imagination. But its high educational value consists in the fact that it is a great means of mental discipline, that it accustoms the mind to exact and consecutive reasoning, and that therefore, if it be properly taught, it is an admirable means by which the logical faculties may be exercised.

When Greek and Latin, as written by ancient authors, (for Latin was studied without interruption from the days of the Roman Empire) were made the basis of a liberal education at the conclusion of the fifteenth century, the learning contained in these authors was as much studied as the style and finish of their works. In the latter they are still unsurpassed, in the former they are generally antiquated and often demonstrably in error. But at the revival of letters Aristotle was an absolute authority in physical and mental science, Virgil and Cato in agriculture, Celsus and Galen in medicine, Vitruvius in architecture, and so on with other useful arts and sciences. These persons have indeed ceased to be authorities, but classical learning is still conceived by many to be the best training of the mind, because these two ancient languages are precise and copious, and singularly logical in their construction and forms. A man who only knows his own language, it is said, knows no language. The meaning of this seeming paradox is that the only way in which men can prevent words having the mastery over them, is to translate them into things, and one of the best ways of doing this is to translate them into other words in another tongue. Now as the constitution of the human mind has not changed and does not change, the best vehicle for this exercise is a language which has been at once the medium by which the most subtle thoughts have been expressed, and the most enduring conceptions have been impressed on the mind.

Now from these positions it will be plain that if any science can be found which combines at once the characteristics of supplying knowledge of immediate practical value, and of forming the mind by training it and rendering its perceptions and reasonings acute and clear, we get in such a science an educational instrument of the highest possible value. But there is no branch of human knowledge which contains

these characteristics in so eminent a degree as political economy does. It must indeed be allowed that the subject is a difficult one, and cannot be easily presented in an elementary form, for reasons which will be alleged. But this difficulty is not insuperable. There is no reason why the special science of modern civilization should not be exhibited in an intelligible and elementary shape.

Let us see what the science of political economy professes to do. It proposes to disclose the conditions under which wealth can be best acquired and distributed, of how the greatest possible number of persons can subsist in the greatest possible comfort, at the least possible cost of labour. As far, therefore, as the material interests of society go, it is eminently beneficent in its intentions. It does not profess to discuss the moral interests of society, and this for two reasons; first because it is desirable that matters of human knowledge which can be kept distinct, should, for clearness' sake, be kept separate, and next because the moral and material interests of society act mutually on each other. An offence against moral duty does not become more amiable when it is shown to be a loss as well as a crime, and human nature is quite as much provoked by moral badness when it is shown to impoverish as well as to dishonour society. Political economy proves that to be a waste which morality proves to be a wrong.

There is no great difficulty in showing how wealth is acquired; political economists are generally agreed upon this branch of their subject. It is not, however, quite as easy to show how wealth is best distributed. Not indeed that this part of the science is less capable of demonstration than the other; but here we have to deal with private interests, with prejudices, with habits, and a host of other accidental anomalies which disturb the judgment, and 'warp men. It would not be difficult to illustrate this fact by a hundred examples, were this the proper place to state them or expound them. They can however all be tested by one rule, put in the form of a question. Can it be shown that this or that law, regulation, custom, practice, tends to impoverish or distress some persons in order to exalt or increase the natural proportion which others should enjoy? If the question is answered in the affirmative, the solution of the problem and the discovery of the remedy is a matter of duty as well as interest; for it is clear that such accidental and irregular benefits as are obtained under such circumstances inflict a far greater injury on those who suffer by the inequality, than they can confer advantage on a favoured class of persons by their imposition. For instance, to illustrate the case by an example on the merits of which every one now is happily agreed. A tax on foreign food might have been a benefit to landowners and farmers; but it was an enormous mischief and injury to the labouring classes, and therefore it was incapable of any defence whatsoever.

It will be seen, therefore, that political economy is eminently an inductive science. In other words, in order to maintain its pretensions to accuracy, it must interpret facts, and discover principles in them. It does not lay down a few axioms and definitions, and then proceed to draw a set of conclusions from abstract hypotheses; but it analyses the



familiar phenomenon of social life. And it may be observed that just in so far as political economists have used the method of inductive discovery, so far have they established their science, and contrariwise, when they have attempted to make their interpretation depend on a few *à priori* principles they have egregiously failed.

Now it will be impossible for a future generation to form a just and accurate estimate of public and private interests, unless the study of political economy forms a necessary branch of school learning. It ought to form a portion of the teaching given in the first form of every school. Nay, it is possible to go further and say that no education, from the lowest to the highest, should be considered as other than imperfect, unless the elementary truths of this master science of modern civilization, law, and government are comprehended. A very little teaching would show to demonstration what are the true relations of labour and capital, producer and consumer, and tend more to make up that ruinous quarrel between employer and employed which is the disgrace and danger of modern society, than anything else. A brief instruction in a few facts and principles would show the real significance of pauperism, its causes and its cure. It would take no great labour to learn what is the meaning of taxation, why it is levied, how it is distributed, and what is the use made of its proceeds; and above all, the study of political economy would give the death-blow to those destructive notions of communism, which will, if anything can, destroy civilization and society together.


Government has slowly come to the conclusion that its business is not to direct the conscience or control the faith of a people. It is leaving these matters to other influences, which are not the less effectual because they are spontaneous and voluntary. It follows then that its business is being confined to the material interests of society; those interests in short, the adjustment of which it is the business of the political economist to discover. Now governments, if they are wise, invite criticism, just as in free countries, at least, they are built up from public opinion. But public opinion should be instructed in matters of primary interest to all, and so all parties are agreed that the people should be educated. But education, apart from higher aims, (on the method of which differences subsist and probably will subsist), must at least fit men for the business of life. The business of life is to earn one's bread honestly, and to get by lawful and fair means the just return for one's labour, to secure one's own rights, and to respect those of others. On these topics, the science of political economy gives instruction, and gives it with absolute precision. It tells, when rightly stated, the laws which govern the material interests of society as accurately as a physiologist tells the structure of organic bodies, almost as accurately as a chemist does the analysis of compound substances, or an astronomer does the motions of the planets and stars. It differs from these exact sciences only because its laws may be violated. But they are violated only to the serious detriment of the man who breaks them, and of the society which suffers or commits the breach.

JAMES E. THOROLD ROGERS.

## MODERN FRENCH HISTORIOGRAPHY.

By J. R. MORELL,

*(Late one of Her Majesty's Inspectors of Schools.)*

IRCUMSTANCES have directed my attention during a residence of some years in France to the average knowledge of history, especially of their own country, possessed by the intelligent classes, and to the manner in which history is conveyed to the minds of the youth of France in their colleges.

I cannot say that I have been greatly surprised at the results, for I did not expect much, knowing how much more gründlich our friends the Germans are in all such matters. Yet as many of their schools in highest repute, such as St. Cyr, the Naval Schools of Brest and Rochefort, &c., put forward history as a very important subject in their programme, and I think with reason, it was natural to suppose that at least fact would be their theme rather than fiction. Such, however, is far from being the case, and it is painful to find in the classical works on history, put into the hands of French youth, such invariable departures from truth when national vanity is concerned, that even their most highly approved historical works and all their lesser works, which are generally taken from the former, come rather into the category of mythology than of history. As a natural result the average mind of the intellectual classes is discoloured by a degree of inaccuracy in all statements relating especially to their recent military history, that must provoke a smile in every impartial inquirer.\*

It is not necessary to go far for evidence of the statements here advanced. "The History of the Revolution, Consulate, and Empire," by M. Thiers, received the great prize of the Institute as the crowning work of the day, and to a certain extent this was merited on account of the excellence of its style and eloquence of its language. But it is unfortunate that here again, as in so many things in France, matter should be lost sight of for the sake of manner, substance for shadow. Without going minutely into details at present, even a cursory survey of this far-famed history, which is a kind of apotheosis of Napoleon I., shows the very different way in which history is treated on the opposite banks of the Rhine. Where a patient German inquirer devotes years to the toilsome gathering of the most authentic and various materials in a multitude of languages,† and then works them into a history, sometimes cumbrous in form, generally wanting in elegance, and almost always unadorned, plain, and dispassionate,—the French historian, typified by Thiers, gives time, it is true, to his studies, but, ignorant of

\* This remark applies even to such able thinkers and writers as Victor Cousin, Michelet, and Thierry. The current school histories are quite beneath criticism, but it is very creditable to the French army and navy that some of the most impartial judgments of recent military events have emanated from the pens of men belonging to those honourable professions. As examples we may cite Lieutenant Guérin's "Histoire de la Guerre de Russie, 1858," an excellent work; General Foy's "Peninsular War," and Colonel Charras' "Account of the Campaigns of Waterloo and Leipzig."

† As in the case of Niebuhr's Rome.

most languages save his own, and undervaluing most public documents save those of his own archives, thinks he has achieved a great success in producing an elaborate, ornate, and perhaps brilliant structure, wanting in all solid foundation, limping on one leg into the light, and practically worthless as a true record of events to be handed to posterity. For such works at best have only the advantage of swelling out the national vanity to exaggeration, and though the idea of being invincible is said to be an element in making you so, it has the disadvantage of blinding you to all improvements and inventions around, to petrify you in a stratum of past glory, and, as in the attitude of modern France and Prussia, to see other more sensible and reasonable nations shoot ahead of you, and threaten to overmatch you even in the very arts on which you pride yourself most.

The previous remarks on the deficiencies in French historiography apply to the principal popular writers whose names are mostly in vogue, and whose works are the favourites with the public. They also apply, but in a less degree and in a modified form, to works in some points of startling excellence, and emanating from men justly estimated for penetration of thought and erudition. Indeed, very few French works on history escape the false colouring of over-partiality and misrepresentation in favour of their own country.

Among the writers most free from this censure we may notice Guizot, the Prince Albert de Broglie, Montalembert, and Villemain. But it is painful even in special historical works on the great discoveries in science to find that French historians scarcely ever do justice to those of their neighbours, almost always arrogating all great inventions to themselves, either directly or indirectly. Accordingly the steam engine is referred to Papin, the electric telegraph to Armpère, photography to Daguerre, &c., while attempts are made to diminish the intellectual value, and even inventive power of men such as Bacon and Newton, by accusing them either of plagiarism, or of being mere imitators in contrast with the sublime genius and originality of Descartes and Pascal.

It is pleasant to pass from such a foolish display of national vanity to the broader and more impartial judgment of the great writers of Germany.

#### ENGLISH HISTORY.\*

1. Describe in words a voyage from England to India by the Suez Canal; and mention the principal places of interest which would be passed on the way.
2. Name the Sovereigns who were reigning in England at the close of each century from the ninth to the eighteenth successively.
3. Which of our English Sovereigns have been personally engaged in War? Give particulars.
4. Who were the Lollards, the Jacobites, the Fifth Monarchy Men, and the Non-jurors respectively?
5. Give some particulars respecting Stephen Langton, Perkin Warbeck, Monk, Sir John Oldcastle, Sir Thomas More, William Penn, and Judge Jeffreys.
6. Describe the Geographical position of each of the following places, and the events which have made it memorable:—Lewes, Naseby, Sedgemoor, Dunbar, Towton, La Hogue, Londonderry, Stamford Bridge.
7. Give some estimate of the Population of England at the death of Charles II., and y what were then the most important and populous English towns.

\* These questions are taken from the Matriculation Papers, Lond. Univ. Jan. 1870. ;

## "TAKING PLACES."

BY ASCOTT R. HOPE,

*Author of "Book About Boys," "Book About Dominies," "Stories of School Life," &c., &c.*



ONCE upon a time, when performing the duties of a school-master, I was honoured by a visit from a gentleman who announced himself as being in possession of the most advanced views on educational subjects, and seemed inclined to look upon my comparatively old-fashioned ideas with pity not unmingled with contempt. In a quiet, patronizing manner, he pooh-poohed the systems and apparatus by which the gentle dew of instruction was being sprinkled on the minds of my pupils, and gave me to understand that he had changed all that long ago; and especially, on there being exhibited to him a register in which the boys were marked according to their places in the class, he handled it with a sort of amused curiosity, as if it were a relic of some antediluvian age. "Dear me," he said, "so you take places, do you? Dear me!" These last two words he repeated several times, with an expressiveness of tone which rivalled Burleigh's nod in the force of its meaning. It was evident that he looked upon us as very far behind the times.

I inquired of this gentleman how he would record the progress of his pupils, and he explained to me that he gave them marks at his discretion, according to the value of their answers, the boys always remaining in the same places, and all danger of unfairness or disturbance being thus obviated, while at the same time a becoming air of calm and dignity was given to scholastic proceedings, and a due check was put upon the restlessness and love of change which are found to characterize idle urchins.

This plan is not a new one, but I hear of its being adopted so much now-a-days that I am tempted to write in defence of the good old custom of taking places, at least in the case of boys up to a certain age. It may seem too small a matter to be treated in such a periodical as this, but I think it worthy of serious consideration.

I am not going to enter into the question of whether a spirit of emulation is or is not desirable in public teaching, but the affirmative being taken for granted, I hold that it is better to allow boys to take places in a class and mark them accordingly than to register the value of each answer they may give.

In the first place this latter plan takes up too much of the master's time and attention. Wherever possible a teacher should avoid sitting at a desk and hampering himself with pen and paper or even a book. He should stand or walk about with the subject he is teaching in his mind, and his attention fixed wholly on his pupils. They should be before him like the notes of a piano, and with voice, hands, and eyes he should play upon them as it were, using his previously-acquired knowledge of their character and mental state to produce the execution and expression which prove him a masterly performer. Some teachers are fit for no higher performance than turning a sort of intellectual barrel-

organ, but all really good teaching is done under a certain afflatus which, joined to experience, gives a man the power of striking the right notes and chords almost without knowing how. Now consider what sort of music you would get out of a musician whom you should require, as soon as he had struck a note, to record it upon paper. You can slowly turn the barrel-organ with one hand and write down its sweet strains with the other, but—to drop this metaphor—in teaching boys you must give up your whole mind to magnetizing their minds, so that you may lead them where you will. This is found so hard even when the whole mind is thrown into the task, that we must fear the results if we are to be tied down to the ever-recurring labour of petty calculations, which to some minds—and those not perhaps the least adapted for teaching—are a most irksome bondage. The schoolmaster's main business is to preach, too much serving of tables may curb and dull his energy, but no amount of such service or of the barrel-organ preaching which it makes possible will avail to arouse his congregation or to drive home his lesson.

No one denies that taking places has the effect of keeping the boys much more alive to their work. In the case of masters who sit sleepily at a desk and pass down questions in regular succession in such manner that the boys can make a fair guess as to what part of the lesson they will be called upon to say, and can give themselves up, when their turn is not near, to pleasant vacancy of mind or ingenious annoyances inflicted upon their neighbours,—in the case of such men the plan they adopt does not make much difference. But a man who himself is lively, who understands when, how, where, and what to ask his boys,—whose questions will come now slowly and deliberately, now rattling like a shower of bullets, apparently shot at random, but in reality going straight to a mark, cannot fail to inspire the class with some of his own liveliness, and especially if he makes use of the plan of changing places. Boys hate droning and sitting still; whatever they are, they are not barrel-organs. This phase of human nature is not natural, but manufactured by long and careful processes of education. Boys will not listen to a lecture, but they love the excitement of being on the *qui vive* for a question by which they may gain or lose places. Let them have this excitement to counteract the deadening effects of mental exertion. Are we never to hear the end of the old theory that education is best conducted under the influence of soporifics? How I have pitied a class of healthy boys who were “sitting under” a grave and reverend seignior, looking so quiet, and good, and stupid. My own master—may the Muses bless him for it!—was not an Orbilius of this type. He not only had a great deal of changing places, but was not averse to a subdued dance of triumph upon such occasions, and thus and in similar ways allowed a great deal of steam to escape which might otherwise have generated less harmless explosions. I am sure that he was wise, and yet there were certain critics who shook their heads over his teaching performances, because in them he was a long way from presenting the idea of a spectacled owl gravely grinding classical music out of a barrel-organ.

I only know one respectable objection to taking places, and that

is the supposed unfairness of the marks obtained in this manner. Every schoolmaster knows that there is a chance that a boy's place at the end of a lesson may not always represent the value of his work upon it; but too much is made of this chance. If you mark at the end of every lesson—not at the end of the day, as is the practice in some schools—you will get results which on the whole will be as fair as you can expect. Marking for answers has also an element of unfairness. The judgment of the master is here supposed to be called in to redress any possible injustice; but if I were a boy I think I would rather trust to the veriest chance than to the judgment of some masters, especially when this judgment, or want of judgment, has to be exercised on the spur of the moment. It is not easy to prevent a boy who has answered right from going above a boy who has answered wrong; it is very easy to make a mistake in determining degrees of rightness and wrongness. When an answer which was quite right was given in a slow, hesitating manner we should be apt to be disgusted and to mark it at a low value, while we might be more favourably disposed than we ought towards a smart confidence which was almost wrong. For I must hold by the modern heresy that even schoolmasters are but men.

It is said that in place-taking forms some masters are found to be unduly favourable to boys who have curly hair, or bright eyes, or winning ways, or some other peculiarity exercising a charm on the magisterial mind, but I believe that this partiality would find a wider scope in the marking book than in the form. The same infatuation, if it may be so called, which might lead a master to think his favourite more deserving than a schoolfellow, would certainly make him think the said favourite more deserving than he really was, and the marks of this lucky youth would be likely to be given on the most liberal scale. Then on the former plan any favouritism which might be shown would be shown in public, whereas on the latter partiality would escape detection, which even in the case of a schoolmaster is a step towards redress. And, at all events, there would be much more room for suspicions of favouritism when the master's judgment and a marking book kept the secret of the value which every boy's work had gained.

Then a timid boy may be thought to be at a disadvantage in a place-taking form. He may be disconcerted by the rapidity with which he is required to answer, confused by the bustle around him, even, it is whispered, threats may have been used by other boys to keep him from going above them. There are, indeed, schools of which the tone is so bad that some boys are prevented from taking a fair place by the bullying both of boys and masters, but in such schools a great deal more has to be done than the mere change of the system of marking.

In the next number I trust to point out some weapons which the master of a place-taking form has in his hands if he can and will use them.

*To be continued.*

## SHORT ESSAYS ON POPULAR NOTIONS OF EDUCATION.

## IV.—MR. FROUDE'S NOTIONS.

**T**HERE are many men now living who can write greater nonsense than Mr. J. A. Froude; but it may be doubted whether there are many who can write it better. It is something to be able to make fancies seem like facts, and bad reasoning like good; but to make superficial nonsense seem like profound truth, to make a perverse crotchet look like the proved solution of a great and important problem, to give to mere "popular notions" the aspect of solemn and almost painful realities—this shows real genius. And this is something like what Mr. Froude has done in the address (from which some extracts have already been given in this Journal) delivered in March, 1869, before the Scotch University of which he had been chosen rector.

We purpose in this essay to give a sketch of Mr. Froude's ideas on education, as there stated, adding comments of our own where his facts seem questionable, or his reasons too deep for common understanding. But we would ask our readers not to be content with our account or Mr. Froude's opinions, but to go through the address itself, which, as it has been printed and published in the form of a book, must be taken as a calm and deliberate statement of the views of the author.

"To make us know our duty and do it, to make us upright in act, and true in thought and word, is the aim of all instruction that deserves the name," says Mr. Froude. Very noble words; but as it is quite possible to be upright and true without learning to read or to count—as in fact reading and counting have not the slightest possible connexion with truth and honesty—it is already clear that if education is to be taken in so very peculiar a sense, it would have been better to use another word, or at least to begin with a clear definition which should exclude all reference to intellectual training.

Then Mr. Froude goes on to describe, with seeming approbation, the system of education which prevailed in former times, and to find fault with the systems, and indeed with the very ideas of education, which are accepted in our own time.

"A boy was instructed in some positive calling by which he could earn his bread and become a profitable member of the commonwealth." Besides this there were "parish schools in which he was taught to read, and if he showed any special talent that way, he was made a scholar, and trained for the ministry." But no one in those times (about three centuries ago) "thought of what we call 'enlarging the mind.'"

Now, there can be no doubt as to the advantage of some positive calling. But are not people taught positive callings at the present day just as much as they were in the sixteenth century? Has the knowledge of all mechanical arts become obsolete? Are there no smiths and carpenters now? or are the smiths and carpenters of our own time so spoiled by enlargement of the mind, or otherwise, that they are unworthy

to be compared with those of a few hundred years ago? And yet what does Mr. Froude mean if he does not mean this? Whether the learning of a trade should be regarded as a part of education or not, is a mere question of words. It is perhaps more convenient to separate the two things, and regard education as confined to moral and intellectual training. But at any rate, if in the good old times people learned trades, and also went to school and learned to read, they do much the same even now.

Speaking to a Scotch audience, Mr. Froude of course speaks primarily of Scotch institutions; but though for a long time there were "no parish schools in England . . . the object was answered by the church catechizing, and the Sunday school." But how long have there been Sunday schools?

Then with regard to higher studies and those who pursued them. There are two ways, it appears, of being independent—if you require much you must produce much, if you produce little you must learn to require little. "Those whose studies added nothing to the material wealth of the world, were taught to be content to be poor. They were a burden to others, and the burden was made as light as possible." One would have thought that if those who produce little should require little, those who produce nothing should require nothing—that the burden upon others should not be made as light as possible, but taken away altogether. If those who add nothing to the material wealth of the world do no good whatever, why should they receive anything at all? if they do good, why should it be assumed, without proof or reason, that they do so little good that they ought to be content to be poor? And in fact they did, it would seem, take the strangest means of being *independent* which ever were heard of. "The laws against mendicancy in all countries were suspended in favour of scholars wandering in pursuit of knowledge." So to be independent is to do *no* good to others—to want—not nothing but—only a *little* from others—and to get that little by systematic begging.

The old forms of education, it seems, including the "discipline of poverty," are dying away, and we get instead what are called "enlarged minds." Education has got to be instruction in everything which can be taught or learned. "Under this system," says Mr. Froude, "teaching becomes cramming." And then he indulges in some popular abuse of "cramming," the whole subject of which we intend to discuss in a future essay.

"Our old universities are struggling against these absurdities" (of teaching too much or expecting too much to be learned). Yet even there things are not much more satisfactory. A man who has been through Oxford "cannot earn a sixpence for himself. An Oxford education fits a man extremely well for the trade of gentleman. I do not know for what other trade it *does* fit him as at present constituted." Now, is it, or ought it to be, the function of a university to teach "trades?" Is Mr. Froude himself prepared to say that he would transform the lecture rooms into work shops—that sawing and planing should take the place of history—that the chopping of wood, or of butcher's



meat perhaps, should be substituted for logic—that knife-grinding should succeed to Latin prose composition? Or if he does not mean this, does he mean that the “trade” of a lawyer, or a doctor, should be taught (the latter at least we suppose *is* taught to some extent), and that the university should become a feeble imitation of Lincoln’s Inn, or St. Bartholomew’s Hospital? Or does he mean anything at all beyond a rhetorical flourish? But to proceed. “More than one man who has taken high honours there, who has learnt faithfully all that the university undertakes to teach him, has been seen in these late years breaking stones upon a road in Australia. That was all he was found to be fit for when brought in contact with the primary realities of things.”

A man who has learnt faithfully *all* that the university undertakes to teach him, including the practice of medicine for instance, of which there is a professorship at Oxford, is fit for nothing but breaking stones! Now the fact is that a man who has learnt a very small part of what the university undertakes to teach, may earn a thousand a-year, or thereabouts, as professor in an Australian university. But accepting Mr. Froude’s stone-breaking story—the date is very vague: “these late years,” as regards Australia, is very much what “these last few centuries” would be in speaking of Europe—what is there to object to, regret, or regard as a failure, in the fact that Oxford men should take to breaking stones? One would think it almost exactly the sort of thing which Mr. Froude, on his principles, would like to see. Scholars, with highly cultivated minds,—for after all Mr. Froude does not positively disapprove of mental cultivation—engaged in increasing the material wealth of the world (for we suppose a *broken* stone is really worth more than the same stone *unbroken*), and at the same time earning their own living and keeping themselves independent! Is not the picture a fine one, and more especially so if Mr. Froude’s own views are accepted? And yet he is not satisfied!

Now, it is true that breaking stones has been a profitable employment in Australia—paid for at the rate of about a pound a day, and that too with little necessity to work very hard. But after all, does the fact that educated men took to work of the kind, even supposing it were under much less favourable conditions, prove that they were “fit for nothing else?” A man has sufficient difficulty under any circumstances in *proving* his fitness for work for which he is fit; and to say nothing of this, something should be allowed for the utterly abnormal state of things which was caused in Australia by the discovery of gold.

But, again, the argument fails in another way. If an Oxford man can break stones, what pretence has Mr. Froude for saying that he is only fit for the “trade of a gentleman,” and cannot earn a sixpence for himself? If he works with his hands at all, why not hammer stones as well as iron? And the latter occupation is spoken of with great respect, as we shall see. Probably, indeed, more money would be got by a blacksmith than by a stone-breaker. But if a man is able and willing to break stones, it is at least unfair to accuse him of being unable to get his own living, unless, indeed, it should appear that he received more for his work than it was worth.

Then with regard to our modern schools. They teach, says our author, "the old Latin and Greek, which schools must keep to while the universities confine their honours to these." Now let us ask our readers to regard this, and consider it, and try to perceive the full absurdity of it. An Oxford man denies the existence of honour-classes in mathematical and physical science at his university! More than this, most people who have heard anything of English education at all, have heard of the Cambridge mathematical tripos. The more modern and less popular triposes in natural and in moral science, may perhaps be overlooked or disregarded; but who but Mr. Froude, in speaking directly or implicitly of Cambridge, would utterly leave out of sight that great tripos, the first place in which is the senior wranglership, perhaps the highest honour, so far as comparison is possible, which the university bestows? Does not the denial of the existence of any such thing a little overpass the proper limits of oratorical exaggeration?

Then we have complaints of "general knowledge," which is said to be equivalent to "general ignorance;" that the matter taught in schools is "arranged admirably for one purpose only—to make a show at examinations;" but is of no use when the pupil leaves school and has to make his own living.

Well, perhaps it will not be immediately available for that purpose. But a school, like an university, can scarcely be expected to teach a trade. If no one need learn anything but his future business, why need there be any schools at all—even parish schools? Many trades can be carried on—nay, even fortunes can be made—without knowing how to read and write. And even supposing that the general knowledge imparted in modern schools cannot be used even *indirectly* in the pupil's trade or profession, that it is of *no* use to him in getting his living, even then it may at least be open to question whether it is of no use at all. At any rate, as we have attempted to show in former essays, it is questionable whether any scheme of education at all can be framed on the basis of teaching only what shall be practically useful in after life. Mr. Froude himself, as we shall see, puts a very wide construction on this principle, when he comes to apply it. "I doubt very much indeed," we further find, "whether the honesty of the country has been much improved by the substitution so generally of mental education for industrial." Now, on this we may remark that neither mental nor "industrial" education have any immediate bearing upon honesty. That would seem rather to belong to moral education. Both mental and industrial training may well have their own advantages, without having, either of them, any very close connexion with honesty or dishonesty. Of course, a man who has not learned to earn his living, will be subject to temptation, from which one who has learned to do so would be free, and so the absence of industrial training may lead to dishonesty; but the existence of mental education will scarcely do so. But again, is it a fact that the substitution has taken place at all? There are plenty of workmen in all kinds of handicraft. Have they been industrially educated, or have they learned their trades without being taught: have their skill and knowledge come naturally to them? It may be said that

in this country at least there are more mentally educated men than there is room or employment for. But even allowing this, may not the same be said for mechanics and artisans also? Is there no distress and starvation for want of work, or want of adequate pay, among men who work with their hands, as well as among those who work with their brains?

After thus pointing out the faults, real or fancied, of our present systems, Mr. Froude goes on to give his own judgment as to what education ought to be. He begins with the kind of education required by those who will have to get their living by the labour of their hands. "Every boy should be put in the way of maintaining himself in honest independence. No education which does not make this its first aim is worth anything at all." Very good. But then, as we have seen, trades and handicrafts *are* taught, or else where do all the smiths and builders and carpenters come from? This is a matter of course, so much so that when education is spoken of, the word is generally used to mean some kind of instruction *different* from this, something which is rightly or wrongly supposed to be good for people, *in addition* to the power of following a mechanical trade. It is to this certainly that modern efforts, legislative and other, are directed. If Mr. Froude's theory be right, we ought not only to give up all idea of a government system of education—we had better repeal the Factory Act, and get back our "industrial" training in full force.

But Mr. Froude soon begins to relax the sternness of his theory. The trade being once learned, "add knowledge afterwards as much as you will; but let it be knowledge which will lead to the doing better each particular work which a boy is practising, and every fraction of it will thus be useful to him." Intellectual education may be founded on "every occupation which adds anything to the capital of mankind, if followed assiduously with a desire to understand everything connected with it. . . ." The peasant's business, the simplest and most elementary of all, is taken as an example.—"Between the worst agriculture and the best lies agricultural chemistry, the application of machinery, the laws of the economy of force," and even "problems of physiology." "Each step of knowledge gained in these things can be immediately applied and realised;" each new thing learned "will make him not only a wiser man, but a better workman, and either raise him to a higher position, or make him more intelligent and valuable, if he remains where he is."

We have given a pretty full statement of this view: now let us examine it a little. We are not of course going to deny that the subjects mentioned—agricultural chemistry, the use of machinery, physiology, and the rest—are well worth learning; that the knowledge of these things is valuable, and the mental cultivation afforded by them equal perhaps to that which the learning of any other sciences would supply. But we do deny, or at least very much question the likelihood of their being put to any practical *use* in the work of the peasant. What seems to Mr. Froude their chief recommendation, is so uncertain and so indefinite, that it is hardly worth while taking into account at all. Think of it. Suppose a ploughboy is taught chemistry, what use will he make

of it? Is it likely that his master will consult him as to the best manure for the fields, or the best order for the crops, or allow him to make experiments upon them? Or if our young peasant has to feed his master's pigs, will not the quantity and quality of the food of those animals be prescribed to him, and will he not have to feed them in exactly the same way, whatever he may have learned or not learned about the heat-giving and flesh-forming constituents? How then can he put his physiology to practical use? Or if he has to use reaping machines, or any other machines, will he not have to use them mechanically, in a certain way shown to him, without any chance of applying his knowledge of the economy of forces? The theory breaks down altogether. His knowledge will *not* make him a better workman, except so far as the general mental quickness he has gained may do so; and this might be acquired just as well by learning anything else, as by learning chemistry or mechanics. Nor again, will his knowledge necessarily either raise him to a higher station, or make him more valuable in his present one? It will not do the latter, because his work does not require the knowledge, and the knowledge cannot be applied to the work. It may possibly do the former, indeed, if he gets an opportunity of proving his knowledge, and if he has interest or such like help; but then any other knowledge would serve him equally well for this purpose. He would be just as likely to rise to a higher position by knowing Latin as by knowing physiology.

So much for the occupation of a tiller of the soil; much the same answer may be made to the same fancies, if applied to other crafts and employments. Let people be taught "facts and principles which they can apply and use in the work of their lives," says our author. But how is it possible? Do not men learn their work mechanically, for the most part, by imitation and practice? In a certain way, of course, every one who does any manual work applies scientific principles. So every child who learns to walk, "applies" anatomical and mechanical principles. But will he walk any faster or further, if he is taught as soon as possible the use of the bones and muscles, or the necessary relations of the centre of gravity and the base?

Then we have an attempt made to carry out the same theory in devising a proper education for pupils who are not to live by handicraft, but to be lawyers, doctors, engineers, and the like. A lawyer, we are told, must know Latin, but Norman-French will be of more use to him than Greek. Now does a lawyer as a general rule really require Norman-French in the practice of his profession? Is a man who knows it certain to be—has he any reasonable likelihood of being—more successful in that profession than one who does not? Will the knowledge either enable him to get more money or to do more good in the way of helping the injured and seeing that justice is done?

A medical man must also learn Latin, but need know nothing about Thucydides. Chemistry, however, he should learn, and, if he wants to keep up with the progress of his science, French and German too, and he must learn them thoroughly well, for mistakes are dangerous.

Now medical men *do* learn chemistry, we suppose, more or less completely. As for French and German it is quite possible to learn che-

mistry, much more thoroughly than any but a professional chemist is likely to learn it, without looking into a French or German book. And even to read French and German books on chemistry it is *not* necessary to know those languages thoroughly well. Scientific books are perhaps the very easiest to read in a foreign language. Chemistry is easy to study in German, even to one who knows but little German. And probably the same may be said for the other sciences bearing upon medicine, that on the one hand they may be learned very well without any foreign language at all, and on the other that if they are studied by the help of a foreign language, a very slight knowledge of that language will be sufficient for the purpose.

A future engineer, Mr. Froude thinks, should learn mathematics, ("there is no progress without it,") and chemistry, which is the "grammar of all the physical sciences." The former assertion we very much doubt. We do not think a civil engineer requires any very profound knowledge of mathematics. Some knowledge of it of course he does require, but does he require anything like the amount which is learned, for instance, by a man who takes high mathematical honours at Cambridge? The latter assertion, that chemistry is "the grammar of the physical sciences," is almost meaningless; and an engineer has scarcely anything to do with it at all.

The engineer should also learn foreign languages, such as French, Russian, Turkish, or Chinese. "Command of any one of these languages will secure to an English or Scotch engineer *instant* and *unbounded* occupation." The italics are ours, and further remark is scarcely necessary.

On the whole, however, the theory is more successful as applied to professions than to trades. There can be no objection to the rule that the higher education of a professional man should be directed to subjects more or less connected with his profession. But is this a new idea? Is it not already carried out, to some extent at least, not with theoretical exactness, but in a way which in a great degree answers the purpose in view? However we are willing to concede that it might be carried further than it is—that the special education might begin sooner, and be arranged with better judgment and a more complete adaptation to the object aimed at. Still, in some professions at least, a more general intellectual education, a cultivation of the mind, is valuable and perhaps necessary. And though a man may fail to acquire even this, he may also fail to learn the more special subjects as he ought. Idleness, carelessness, and inveterate stupidity, or, to speak more mildly, perhaps want of natural fitness for the special work in hand are more likely to be the causes of failure than some slight lack of due proportion or arrangement of the more general and more special subjects to be learned.

History, poetry, logic, and such things are all very well as amusements, but not, it would seem, good for much else. At least a life of intellectual culture must be restricted to a select few who are willing to sacrifice everything else to it, to renounce the usual objects of life and become a kind of ascetics. As to this, we may just say that things will

be very likely to find their own level; if a man's intellectual pursuits are not such as other people care about he will not get much by them. But if they are, why should he not get what he can by them in the same way as he would get what he could by following the trade of a butcher or a baker?

"The present higher education has no practical bearing upon life." This is illustrated by the imputed failure of the highly educated, and of late years very active and energetic clergy to deal with the alleged increase of commercial dishonesty. Classical philosophy, history, and literature, Mr. Froude says, "make men incapable of understanding the world in which they live." Note, they do not merely not enable them to understand it, they make them incapable of understanding it. So then, it would seem, the present Chancellor of the Exchequer, to say nothing of the Prime Minister, is utterly unable to understand the world in which he lives. Is it really true that the ordinary education of the higher classes in England absolutely prevents their understanding anything about society and government?

As to history, Mr. Froude does seem to make a sort of exception or partial exception in favour of the History of England and Scotland, as compared with that of Greece and Rome. But with regard to all this question, there is this to be said. In order to test the value of classical education, or, indeed, of any other kind of education, it is only fair to take the case of men who really have received the education in question, and not merely been to places where such education is supposed to be given. Now do all the men who pass through the Universities really learn classics, or really learn anything of those subjects which Mr. Froude so depreciates? Does a graduate of an English university necessarily know more about the history of Greece and Rome than about the history of England? Is he, as a matter of course, a thorough Greek scholar, or thoroughly well up in ancient philosophy? If not, is there any reason for supposing that the inability of the clergy (for instance) to understand the world (supposing that inability to exist) is owing to their classical studies? Or is it established by actual induction, that the men who have learned the least in their university course, invariably understand the world best—and that those who have learned the most, are the least capable of understanding it?

Then as to emigration, and the supposed uselessness of educated men in the colonies. Now it may be very true that people *do* write home from Australia, for instance, "Send us no more well-educated men," and so on. People talk and write nonsense in most parts of the world, we suppose, and why not in English colonies also? And there is a disposition, we believe, on the part of some colonists to talk about what "they want," and what they "don't want," as if a few thousand men settled in a great continent had a prescriptive right to regulate the future population of that continent according to their personal likings or dislikings. But if we look a little further we shall see that things are not quite as they might seem at first. The fact is, education is very highly valued in the colonies, more so, perhaps, than in Eng-

land. It would be difficult, we should think, to name any use to which education could be put in England, which it could not be equally well and profitably—often much better and more profitably—put to in an English colony. Teaching, for instance, is greatly desired, and highly paid. It is natural, in fact, that where there is comparative prosperity, there should be demand for luxuries—and among others, for intellectual culture. We do not mean to say that a well-educated man must always succeed in a colony, any more than that another man must always succeed, or than he himself must succeed at home. Failure is quite possible. But it should be ascribed to the particular fault or misfortune of the one man, and not to the uselessness of education, or to any supposed unfitness of the colonies for it, or of it for the colonies.

One suggestion of Mr. Froude's is a very good one: that it might be well if every one—whatever his prospects or intentions in life—were taught some mechanical trade. "It hurts no intellect," he says very truly, "to be able to make a door, or hammer, or horse-shoe." But when he goes on to say that "if you can do either of these you have nothing to fear from fortune," the exaggeration is so evident that it is scarcely necessary to point it out. Is the demand for doors and horse-shoes absolutely unlimited, so that a man can always at any moment get paid for his door or his horse-shoe? and that, too, however many followers of Mr. Froude take his advice, and set about making those articles? And what is to happen to the man who has taken this means of making himself superior to Fortune, if the door and horse-shoe market should be overstocked for a single week?

Mr. Froude objects to the making a profession of literature—and for a strange reason. The reward for literary work, he says, is not proportionate to its goodness; whereas the best carpenter receives the highest pay, and *the best lawyer or the best doctor commands most practice and makes the largest fortune*. Is it possible that Mr. Froude has any means of knowing this, or even that he has really, after reflection, come to this conclusion? Does a doctor or a lawyer get any practice at all, to begin with, because of his merits, and not rather by means of his interest, or connection, or capital? And even after he has made a beginning and has at least some chance of showing what his merits really are, how many people are capable of judging of them, or care to judge of them without regard to other considerations? Do not people choose their doctor because he is fashionable, or because they like him, or because he happens to be thrown in their way, perhaps because he has bought the practice of the place where they are living at the time?

However, one should not try to get money by literature, but "choose some other calling of which making money is the legitimate aim." In what sense can it be said to be the legitimate aim of other trades and professions, and not the legitimate aim of literary work? Allowing that it need not, or even should not, be the only aim: need it, or should it be the only aim of the professions of law and medicine? Granted that a writer should try to do good by his writings, and not only make money. Should not a doctor try to do good by his advice

and his prescriptions? And if it is allowable for a doctor to try to make money as well as to do good, why not for a writer also?

Here we end our examination of Mr. Froude's views, some of which, indeed, we have met with already, and shall meet with again, though perhaps in somewhat different forms. That there is much good sense in what he has said, or at least underlying and suggested by what he has said, we shall not deny. But we have seen that his opinions are questionable, his reasons inadequate, and his assertions inaccurate even to unfairness, and exaggerated even to absurdity.

J. C. V.

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### A SUGGESTION.

THE following suggestion is not prominently put forward, for various reasons, amongst which may be mentioned the necessity to educate the public mind before persistently advocating reform; also, that press of work, &c., has compelled the writer to forego the eliciting of opinion before mooted the subject. Educationalists ignore, comparatively speaking, the accepted axioms of scientific men. The astronomer does not depend solely on his own labours, but makes himself conversant with the results achieved by others; so with the chemist, the mathematician, &c. But the dominie maintains a perfect isolation from his colleagues. He depends entirely upon his own limited experience. Hearsay, or printed innovations to the ordinary routine, are looked upon with suspicion. Thus we find no two schools conducted upon the same plan. Every principal uses the best system—that is, as far as he knows. Here, then, the old adage has been acted upon—

“If ignorance is bliss, 'tis folly to be wise.”

For wisdom would undoubtedly soon make short work of the multitudinous systems at present in vogue, and eliminate from the chaotic mass some ground-plan upon which schools might be conducted with more benefit to the teacher and the taught. We would then suggest that an association of middle-class principals and assistants be formed, and that an annual meeting be held, when papers upon various scholastic subjects might be read, and suggestions and improvements discussed. The meeting could be held during the Christmas or Midsummer vacation, alternately in the South and North, e.g., say a first meeting should be held in Oxford, then future operations could be decided. Last year a meeting was held at Uppingham, at the suggestion of Mr. Thring, when an association of the head-masters, &c., of the *University Schools* was formed. We now advocate a similar proceeding for the principals of *Private Middle-Class Schools*. Gentlemen agreeing with the above suggestion are invited to communicate with the editor of this journal regarding the same. The various reasons which point to the formation of some such body cannot be fully discussed in the limited space at our command, and probably are too well known to need such discussion.

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**AUSTRALIA AT WORK.**—The members of the Church of England have mooted the question of erecting a college in affiliation with the Melbourne University. Trinity College is to be the name of the new institution. It is designed for the purpose of imparting special training and instruction to Church of England students. The building will cost between £7,000 and £8,000; of which sum about one-half has already been subscribed, and the projectors have apparently good reason to be sanguine as to the balance.



## LATINITY IN FRANCE.

(WITH A SURVEY OF LINGUISTIC STUDIES IN THAT COUNTRY.)

BY J. R. MORELL,

*Late H.M. Inspector of Schools.*

N all superior French education—and in speaking of Latin and Greek we are confined to this—the programme for the Baccalauréat Examination is evidently the guide and the limit of the curriculum.

Several fluctuations in the programme have taken place during the last ten or fifteen years, but the bifurcation of the programme into a science and an art or letters department is the chief alteration introduced, and deserves to be noticed, as it has dropped a considerable amount of the classical element in the case of the former (the science programme).

We have before us the latest programmes issued by the ministry of education, and beginning with that for the Baccalauréat ès Sciences, we find that Greek is suppressed, and that, while the Latin Discourse, or Prose Composition, is also withdrawn, the only *versions* or translations required are:—

Cicero, the Catilinarian, and Verrine Orations, and his *De Amicitia*.  
Cæsar, *De Bello Gallico*.

Virgil, the Eclogues, and Books I. and II. of the *Æneid*.

Horace, the Satires.

When it is added that the mathematical and physical parts of the programme do not go beyond the elements, such as some notions on some of the usual curves, rectilinear trigonometry, a full analysis of the spectrum, of the law of refraction and reflection, it will be seen that, the ground covered by this science programme being limited, the labours entailed on the student, even at the age when many are expected to pass, are not excessive. Indeed, the philosophy of the human mind is the only part that appears inappropriate as a study for boys of seventeen or eighteen.

The programme for the Baccalauréat ès Lettres is a very different affair; for, whilst requiring the study to cover a much more extensive field in the Greek and Latin classics, it has greatly weighted the former programme by the addition of solid elementary to plane geometry, by a considerable increase in the domain of physical science and cosmography, and by a very serious augmentation in psychology and mental philosophy, with the appendage of a dissertation philosophique in French on some topic set by the faculty, in which any rigorous examiner can easily *couler* or sink the aspirant both in the substance and style of his composition.

It will not be necessary to examine closely into the other branches of this Letters Examination, our province in the present paper being confined to the classic and linguistic studies in France; but a glance at the general field of the programmes was necessary to show that in neither

branch of the bifurcation do the studies exacted from the aspirant admit of a very superior development of Latinity.

The previous survey of the programme for the Baccalauréat ès Sciences will have established this in its case. Indeed, it is clear that in an examination chiefly intended for those devoting themselves exclusively to scientific pursuits, the element of Latinity must occupy a subordinate and a comparatively humble position.

A superficial survey of the programme for the Letters might lead to the inference of an opposite view, as it embraces the whole of some of the most difficult classical authors, such as Thucydides and Tacitus, and it requires a prose Latin composition or discours Latin on a subject given by the faculty.

A closer scrutiny of the programme, and a familiarity with the working of French superior education, shows this view to be a fallacy. For, first, the number of subjects required in a limited time, and under a certain age, make it impossible to go into any individual department; and this applies even to individual subjects, such as Latin, for a boy under, or at most only eighteen, cannot be supposed to be prepared in the following collection of authors: Tacitus, *opera omnia*; Horace, *idem*; Virgil, *idem*; Cicero, principal orations; Lucretius, extracts. When to this it is added that the aspirant is required to write an almost faultless Latin discourse (faultless in point of grammar) it will be seen that the examiners must needs pass lightly over much of the classical imperfection of the candidates, or none would be received.

Taking a general survey of the bifurcation of the Baccalauréat Examination in France, it may be predicated of it that with certain exceptions the branch of the Baccalauréat ès Sciences has the advantage, as being simpler, more searching, and less of a sham. We do not wish by this to imply that the Letters Examination is mere play; far from it. The discours Latin, or Latin prose composition, is a serious and a very useful part of the ordeal, deserving of consideration elsewhere; and though the dissertation philosophique is chiefly an exercise of memory, and a specimen of French style, because thought cannot be much developed under the age of twenty, it is only this limit of age, applying to all young men entering the higher schools in France, that neutralises the great advantages that might ensue from a more general and serious study of philosophical subjects. Indeed, we are convinced that in England, where no such limit of age exists, the introduction of more mental philosophy in the curriculum of our Universities would be very advantageous.

The mathematical and physical parts of the Letters Examination are necessarily to a great extent superficial, and yet in certain faculties, and in the hands of some examiners, they may be made searching enough. Indeed, the general fault of the Letters Programme is that it is far too extensive, in fact embracing an encyclopedia, though we admit that in the present day it is almost incumbent on corporations to require candidates for degrees to be at least superficially acquainted with an immense range of topics.

But in this respect the Science Branch has evidently the advantage.

Being intended for those specially devoted to exact and positive science, certain elegancies and refinements are in their case dispensed with, and the candidates, while sacrificing breadth of surface, gain greatly in depth and solidity of substance. And if the great end of education be (as surely it must be) the highest development of intellectual power, it is clear that this latter Science Branch attains that end the best.

We are far from implying by this that many of the subjects on the programme of the Letters Examination are not equal, and perhaps superior, to exact science in training the intellectual faculties. Thus Latin and language generally, when treated in a philosophic spirit, as by the great critics of Germany, are perhaps the highest exercise of the intellect, next to mental philosophy. But how can this be expected in youths of eighteen, and with such a field to cover as those of the Letters Examination? We repeat it, the great defect of the French Letters Programme is in the limit of age. If this were extended, it would be almost faultless, and it might be adopted in our universities, with great advantage, and with very little alteration. After the previous remarks, it will not surprise our readers to be told, as the writer once heard an experienced French teacher remark: "Les langues ne sont pas étudiées sérieusement en France." This applies in a superlative degree to Greek, for though there may be a few Hellenists in the French faculties, the study of Greek is in general so neglected, that all Greek works issued in France have to be corrected across the Rhine, and the most received lexicons are full of errors.

The case is not so bad in Latin, and, owing to the affinity of the Romance tongue with Latin, a certain facility in writing Latin prose is attained by many French students, but their style is mostly a Latin de cuisine, though grammatically correct; and the professors and examiners of the faculties are so far from rising to a true sense of their vocation, that many Ciceronian expressions introduced in the Discours Latins of candidates have been condemned as barbarisms.

It is certain that the number of thorough Latinists is very restricted in France. In fact, even now they have no grammars that rank higher than Lhomond and Alvarez, both very respectable in their day, but immeasurably inferior to Zumpt and Madvig, (who are almost unknown in France).

It is a singular phenomenon that while Greek and Latin philology has been so little pushed in France, French savants, from the time of Abel Remusat, and even before, down to Jullien, have plunged with enthusiasm into the syllabic mysteries of les langues Tartares and of Chinese, which they have continued to cultivate with considerable perseverance and penetration.

The love of novelty and change is a great feature in the Gallic race, gens still avida *novarum rerum*, as in the days of Cæsar. To this same cause, perhaps, may be attributed their abandonment of the beaten track in the study of Greek, and the warmth with which many of their savants have adopted the Neo-Hellenic method of pronouncing and studying ancient Greek. Nor must we be too ready to condemn these innovations, for with all their rashness and love of novelty, our

Gallican neighbours often strike out into new paths that lead to good, but which we neglect too much from our less moveable and restless genius.

As regards Latin versification, this is a point less generally attended to in France than with us, and less pursued in France than it was thirty or forty years ago. The examination for the Licentiate of Letters, I admit, requires proficiency in this branch. But the majority of the youth of France in the higher schools do not aim at the licentiate, and stop short as bachelors.

Some, indeed, may think this neglect of versification a matter not much to be regretted, as it saves them the publication of thousands of bad Latin verses with which our public schools regale us ; but while we may admit that this branch has been overdone with us, it is still doubtful whether the process of studying Latin versification be not a useful training of the faculties.

Without pursuing this investigation, we conclude with the remark previously made : that languages generally, including Latin, are not seriously studied in France. The one object of their jeunes gens is to be reçu bachelier. If they pass the Bachau, as they call it, they are mad with joy ; if they fail, the eyes of boy babies of seventeen are seen to fill with tears, not from any loss of scholarship, or shame at defeat, but because the Bachau opens the door to all public life and respectable positions in France.

Accordingly, there are regular grinding mills to prepare for the ordeal, not only coaches innumerable, under the name of répétiteurs, but grave and potent seniors, well up in the mysteries of the art, who patch and doctor up infirm capacities and memories for the awful event.

The previous reflections are not intended as a condemnation of matters in the faculties of Letters across the channel. No doubt many points might be altered, especially the limit of age ; but we also have much lumber of the past to get rid of, and many changes to effect in our educational methods, as witness the discovery of the obsolete character of our mathematical teaching through Euclid, in comparison with the clear, elegant, short demonstrations in use in France.

The two countries here, as in many things, can usefully make exchanges in certain points of deficiency and superiority. In language and history the French are certainly inferior to us, and especially to the Germans.

#### ENGLISH HISTORY.

8. Give a brief narrative of the chief events in the reign of John, *or* in that of James I.
9. On what occasion did one of our Sovereigns receive the title of Defender of the Faith ?
10. What were the most important laws enacted during the reigns of Henry VII. and Henry VIII. ?

#### ARITHMETIC.

1. Find the value of  $\frac{3}{8} - \frac{5}{14} + \frac{1}{20}$ , and divide  $\frac{19}{40}$  by the result.

Divide '0075 by 25'6, and state the principle upon which you fix the position of the decimal point in the quotient.

## NOTES ON SHAKSPEARE'S PLAY, "THE TWELFTH NIGHT."

## LITERARY AND HISTORICAL NOTICE.



THE lighter scenes of this entertaining comedy are entirely the production of Shakspeare, while for its more serious portions he is probably indebted to the *Histories Tragiques* of Belleforest, who had them from Bandello. Malone quotes the "Fifth Eglog of Barnaby Goodge," published, with other poems of his, in 1563, and now an exceedingly rare book, to show that Shakspeare might have borrowed from it the circumstances of the Duke sending his page to plead his cause with the lady, and of the lady's falling in love with the page. "This play," says Dr. Johnson, "is in the graver part elegant and easy, and in some of the lighter scenes exquisitely humorous." Its progress is full of spirit, and the entanglement of characters and circumstances is pleasingly unravelled in the final catastrophe. The self-sufficiency of Malvolio is charmingly depicted, and very laughably punished, whilst the excesses of Sir Toby Belch are almost excused by his smattering of wit. The sudden attachment of Viola is much more improbable than the obstinate repugnance of Olivia, but the romantic nature of her love, "feeding in concealment on her damask cheek," gives an interest to her situation, whilst a victim to the tender passion, which the undisguised declarations of the other, though placed in the same predicament, must generally fail in producing.

Though long supposed to have been one of Shakspeare's latest productions, we now know it was acted as early as the beginning of the seventeenth century. Messrs. Collier and Hunter discovered almost simultaneously a small MS. diary among the Harleian Collection at the British Museum, made by a student of the Middle Temple named Manningham, which contains the following entry:—

"Feb. 2, 1601. [2.]

"At our feast, wee had a play called Twelve Night, or What you Will, much like the Comedy of Errors, or Menechme in Plautus, but most like and neere to that in Italian called *Inganni*."

There can be little doubt but that before being acted in the Temple, it had been represented in the public theatre, and, since it is not mentioned by Meres in his list of 1598, its production may be confidently ascribed to the period between that year and February, 1602.

## ACT I.—SCENE I.

Enter DUKE, CURIO, LORDS, &c.

\*IA. DUKE. '*Sweet sound.*' This is the rendering of the early text, but Pope inserted *South*, an interpolation followed by almost every other editor.

I. DUKE. '*Of what validity.*' Of what *value*. *Validity* is a noun.

2. „ '*High Fantastical.*' Fantastical to the height. *Fancy*, in

\* These numbers do not denote the line in the play, but are placed for reference to other notes.

the line preceding, is put for *love*, and, therefore, Shakspeare means that *love* is the height of *fantasy*.

3. " 'Methought she purg'd.' *I thought* she purg'd. *Methought* here means *I thought*, but it is a more expressive form than the latter, as it includes both nominative and objective cases as it were, expressing, *I thought within myself*. *Methinks* is from Anglo-Saxon, *thinkan*, to seem, not *thencan* to think. This verb has only the forms *Methinks* and *Methought*, the third singular present and past.
4. " 'Fell and cruel.' *Savage* and cruel.

Enter VALENTINE.

5. " 'Till seven years' heat.' This expression probably means :—Till seven years have passed away, *i.e.* seven summers, one year's heat being put for a summer. We have summer used in this sense by Longfellow,—'That maiden of seventeen summers,' *i.e.* seventeen years' old.
6. VAL. 'Like a cloistress.' A woman who lives in a cloister. A *cloister* is a place of religious seclusion. Shakspeare has given gender to this word, contrary to the usage of the English language, which does not admit of gender for nouns without sex. The solution appears to be this: putting *cloister*, by metonymy, for *monk*, he has coined the word *cloistress* from it, which means *nun*, thus : masculine, *cloister*, feminine, *cloistress*. So we have masculine, abbot, feminine, abbess; masculine, prior, feminine prioress; but the nouns *abbot* and *prior* are derived from *abbey* and *priory*, and have thus acquired gender.
7. DUKE. 'Rich golden shafts.' Cupid's darts are called 'the golden shafts of love.'
8. " 'Her sweet perfection.' Her husband, her one self (single) king. (Staunton.)

SCENE II. Enter VIOLA, CAPTAIN, &c.

9. CAP. 'Illyria.' A division of Italy.
10. VIO. 'Elysium.' Paradise. Any place of perfect happiness. In heathen mythology, the *abode* of the departed souls of the virtuous.
11. " 'Perchance.' Adverb, by chance, perhaps. *Per* is a Latin prefix meaning *by* or *through*.
12. CAP. 'Arion on the dolphin's back.' Arion was a lyric poet, and player on the harp. On one occasion he went to Sicily to take part in a musical contest.\* He won the prize, and returning home laden with treasure, the sailors coveted his riches, and meditated his murder. He, however, escaped them by throwing himself into the sea, and, seating himself on the back of a dolphin—a number of

\* Lempriere says :—He obtained his riches during a residence in Italy. (ED.)

which surrounded the ship—was carried by it to Tænarus, whence he returned to Corinth in safety.

13. CAP. 'Very late.' Very lately. *Læt* is the old English for our adjective *late*. When the *e* was added it became an adverb as it is here used. *Late* is used as an adverb now, as *late* in the day.
14. „ 'She hath abjur'd.' Renounced, forsworn.
15. „ 'Kind of suit.' Petition, request.
16. VIO. 'Though that nature.' *That* a conjunction=*since*. Though that=*although*.
17. „ 'That suits.' *Suits* here means *agrees*.
18. „ 'That will allow.' *Allow* means *approve*=*make*.
19. „ 'Mayhap.' *Hap*, a diminutive form of *happen*. *Hap* was formerly used as a verb, now it is only used as a noun.

SCENE III. Enter SIR TOBY BELCH and MARIA.

20. SIR TO. 'By troth.' *Troth*, Anglo-Saxon, *treothe*—*truth*.
21. „ 'I'll confine myself.' *Confine* means clothe, encase, not *limit*, *bound*, the meanings that Maria gives to the word, and the recognized meanings of *confine* now-a-days.
22. „ 'An they be.' *If* they be. *An* in old English=*if*.
23. MAR. 'But he'll have but.' First *but* a conjunction, second *but* an adverb=only.
24. SIR TO. 'Viol-de-gambo.' A bass viol. This was an indispensable piece of furniture in every fashionable house. Whoever pretended to fashion affected an acquaintance with this instrument.
25. „ 'A coistrel.' A bastard hawk, now called *kestrel*.
26. „ 'A parish top.' It was customary to keep a large top in every village for the peasants to whip in cold weather.
27. „ 'Castiliano vulgo.' This seems to have been a slang phrase, or drinking term. (Chambers.)

Enter SIR ANDREW AGUECHEEK.

28. SIR A. 'Fair shrew.' *Shrew* literally means a *peevish* woman. But it is most likely used here instead of *woman*, and not with intent to reflect upon the disposition of Maria.
29. „ 'Marry.' This word was a petty oath or exclamation much used in the time of Shakspeare. It is a corruption of *Mary*, i.e., the *Virgin Mary*. It is not now obsolete, being used in the North of England.
30. MAR. 'The buttery-bar.' Pantry, beer-cellar.
31. SIR A. 'I'd forswear it.' Renounce it. See Note 14.
32. SIR TO. 'Porquoi.' A French word=*why* in English.
33. SIR A. 'The tongues.' The classic languages are, by way of eminence, called 'The tongues.'
34. SIR TO. 'A distaff.' The spindle from which flax is spun upon the reel or bobbin.
35. SIR A. 'She'll none of me.' A colloquial construction of—She will have nothing to do with me.

36. SIR TO. '*Kickshaws.*' A corruption of the French word *quelquechose*, which appears to have been a general term given to dances or games introduced from France.
37. " '*Galliard—Coranto.*' Both names of dances.
38. " '*Mistress Mall's picture.*' An allusion to the infamous Mary Frith, commonly called '*Mall Cutpurse*,' from the title of a comedy, by Middleton and Dekker, of which she was the heroine.
39. " '*Sink-a-pace.*' Cinque-pace, the name of a dance. *Cinque* is French for *five*.
40. " '*Flame-coloured stock.*' An allusion to the old custom of putting disorderly people into the '*stocks*.' Flame-coloured, *i.e.*, painted red.
41. " '*Taurus? that's sides and hearts.*' An allusion to the fanciful medical astrology, which, as Johnson remarked, refers the affections of particular parts of the body to the predominance of particular constellations. *Taurus* is the sign of the *Bull* in the zodiac.

SCENE IV. Enter DUKE, CURIO, &c.

42. DUKE. 'No less *but* all.' No less *than* all. *But* is a conjunction.
43. " 'Address thy *gait*.' *Gait* literally means *manner* of walking; here the *walk* itself.
44. VIO. 'As it is *spoke*.' *Spoke* is the preterite or past of *speak*. Spoken should be used when the verb is in the passive voice; as *speak*, *spoke*, *spoken*. Shakspeare, however, often uses the form *spoke* for the perfect participle. Probably this was good English in his day.
45. DUKE. '*A nuncio.*' Name applied to the Pope's legate. It is here used broadly for *messenger*.
46. " 'Smooth and *rubious*.' *Rubious* means *red*. It is an adjective derived from noun *ruby*. This word is obsolete. The modern adjective is *rubied*, though not so expressive as the old form.
47. " 'All is *semblative*.' All is *like to*. *Semblative*, from Latin, *semblo*—resemble.
48. VIO. 'A *barful* strife. *Barful*, full of impediments or hindrances. *Barful* is obsolete.

SCENE V. Enter MARIA and CLOWN.

49. CLO. 'Needs to fear.' We do not now place '*to*' the sign of the infinitive before a verb governed by *need*. Shakspeare, however, places *to* after *durst*, *saw*, *bid*, &c. This was good English in his time. On the other hand, *to*, in old English, was often omitted after verbs that require it now, as *endure*, *forbear*, *forbid*.
50. MAR. 'A good *lenten*.' *Lenten* means short, spare, terse. *Lenten*, adjective, derived from noun *Lent*.
51. CLO. 'Mistress Mary.' The young reader will observe that *Mistress* is here used instead of *Miss*. In Shakspeare's time,



married and single women were promiscuously called *Mistress*.

52. CLO. '*On two points.*' *Points* were hooks, which fastened the hose or breeches.
53. " '*Thou wert as.*' *Thou wouldst be as.* The past subjunctive *were* is sometimes used by our classic writers for the future subjunctive *would be*. Shakspeare says, 'If 'twere done when 'tis done, then 'twere (would be) well it were done quickly.' And Maria in answer to the Clown here says, 'You *were* best,' for, it *would be* best. *Wert* is subjunctive past, second, singular. Milton uses *best* for *be*, second, singular, subjunctive present. *Best* is obsolete, and *wert* is seldom or never used, and might well become obsolete.

Enter OLIVIA and MALVOLIO.

54. " '*Quinapalus.*' A name coined for the occasion.
55. " '*Madonna.*' Italian for Mistress, Madam.
56. " '*Simple Syllogism.*' A simple syllogism consists of two premises and a conclusion drawn therefrom, therefore there is no very simple syllogism here. There would have been a 'simple syllogism' had Shakspeare said, 'Anything that's mended is but patched, but sin is mended with virtue; therefore sin is patched.' This conclusion, however, would be false, for it proves that *all sin* is patched, which is not true. The false conclusion is drawn by means of the minor premise—'but sin is mended with virtue,' which ought to have been qualified by the word *some*—'*some sin* is mended,' &c., therefore, '*some sin* is patched,' is the conclusion.
57. " '*Cucullus non facit monachum.*' The cowl does not make the monk.
58. " '*I wear not motley.*' He means that, although he was clothed in a motley (many coloured) coat, the dress worn by fools, yet he was not really or naturally a fool. He had only the appearance of a fool.
59. " '*Mouse of virtue.*' Virtuous mouse. He calls her a *mouse*, because she kept herself indoors, and was afraid to let the tainted breath of this wicked world flow upon her.
60. MAL. '*The fools' zanies.* The fools' *baubles*. The fool (says Douce) usually carried in his hand an official sceptre or bauble, which was a short stick ornamented at the end with the figure of a fool's head, or sometimes with that of a doll or puppet. (Chambers.) When Cromwell entered the House of Commons to expel the Long Parliament, he ordered his soldiers to take the *mace* off the table, which he called 'That fool's *bauble*.'
- I. OLI. '*Bird-bolts.*' Short arrows.
62. " '*Nor no railing.*' Judged by the grammars of our day, two

negatives coming together destroy one another and make an affirmative. Shakspeare, however, uses them together throughout the whole of his works, and not with the intent that they should make an affirmative, for which we must make allowances, as this use of negatives was not considered bad English in his day. '*Nor any railing*' would be the proper English now.

63. CLO. 'With *leasing*.' With *lying*. Anglo-Saxon *lesynge*.

Re-enter MARIA.

64. " 'Pia Mater.' The cover of the brain, commonly called the 'brain-pan.'

Re-enter MALVOLIO.

65. MAL. 'Yond young fellow.' *Yon*: *yond*, is used either as a demonstrative pronoun, or else as an adverb of place. Here *yond* is probably a demonstrative pronoun. We generally use *yonder* when the word has reference to a place. '*Yon* cottager, who weaves at her own door.' Here *yon* is evidently intended to point out some *particular person* with no reference to *place*.

Enter VIOLA.

66. VIO. 'Very *comptible*.' Very accountable or sensitive. *Comptible* from French *compter*.
67. OLI. 'If you be *not* mad.' There appears to be some mistake here. We should rather think from what follows—'If you have reason be brief,'—that *not* is a corruption of the text, and should be left out; thus, 'If you *be* mad, be-gone.' Olivia does not want to hear a madman talk, and a reasonable man must be brief.
68. VIO. 'No, good *swabber*.' A *swabber* is one who dries up the deck of a ship with a *swab* or *mop*.
69. " 'Some *mollification* for your giant.' It appears from several parts of this play that the original actress of Maria was a very short person. Viola refers to Olivia as being a *giant* in comparison with Maria who was a *dwarf*.
70. " 'I am to *hull* here.' *To hull* means to *batter* the hull of a ship with cannon balls. In like manner Viola had to continue battering at the heart of Olivia with words.
71. OLI. 'This *present*.' This *presents*, *shows*.
72. VIO. 'Leave the world no *copy*.' Die without being married, hence without children.
73. OLI. 'Divers *schedules*.' *Divers* is a distributive adjective, and means *sundry*. *Schedules* are *lists*, with the titles and descriptions given.
74. VIO. 'The *nonpareil* of beauty.' *Nonpareil* means, without equal. Latin, *non*, not; *pare*, equal.
75. " 'He might have *took*.' Might have *taken*. See note 44.
76. VIO. 'Loyal *Cantons*.' Loyal cantos. *Canton* from Latin *Canto*,

I sing. *Canto* is the name given by some of our poets to the divisions of their poems, notably by Byron and Spenser. *Canton* here means a *song*.

77. VIO. '*Reverberate hills.*' Echoing hills. Reverberate, from Latin *reverbero*.

78. " '*No fee'd post.*' No paid messenger.

79. OLI. '*Fivefold blazon.*' To blazon is to proclaim abroad. The term blazon or blazonry was originally applied to coats of arms, by which the owners were known to the public.

Re-enter MALVOLIO.

80. " '*The county's man.*' The *count's* man.

81. " '*Ourselves we do not owe.*' *Owe* means *own*, possess, *i.e.*, we are not the dispensers of our own fate. What is decreed for us by Providence the same must happen unto us. These are four beautiful lines, and finely express the hopes and fears of all who are just beginning to be initiated into the art, or to feel the power, of love.

## ACT II.—SCENE I.

Enter ANTONIO and SEBASTIAN.

82. ANT. '*Nor* will you *not*. Here the two negatives *nor* and *not* destroy each other, and the question stands thus :—'Are you willing? or, Will you?' See note 62.

83. SEB. '*It were* a bad.' *It would be* a bad. See note 53.

84. " '*Go, sooth, sir.*' Go, *verily*, sir. *Sooth* an adverb. *Sooth, forsooth*, are now used only in an ironical sense; anciently they were used both satirically and seriously.

85. " '*To express* myself.' To make known, to reveal myself.

86. " '*Some* hour before.' *About* an hour before. *Some* is an indefinite adjective pronoun.

87. " '*Breach* of the sea.' *Breaking* of the sea, or the waves, over him.

88. " '*Manners* of my mother.' *Manners* here means *disposition*.

SCENE II. Enter VIOLA, MALVOLIO, &c.

89. VIO. '*Even now.*' Put, by a figure of speech, for '*A little while ago.*' *Even* is most elastic in the number of its meanings. It may mean *yes, certainly, suppose, exactly*, as well as *at the same time, &c.* Here it probably has the meaning of *just, i.e., just now*. The two words taken together form an adverbial phrase, and in this instance qualify the verb *was*, understood.

90. MAL. '*That you be never so hardy to.*' That you (will) be never so hardy (as) to. The co-relative to the conjunction *so* is *as*. Shakspeare often omits words, especially in conversation, in order that the language may have more of familiarity, and savour less of stiffness.

91. VIO. '*Fortune forbid, my outside have not.*' Fortune forbid (that) my outside (should) have charmed her, is the sense in

which this must be taken, otherwise it would not agree with the context.

92. VIO. 'She *were* better.' She *had* better. See note 53.  
 93. " 'The *pregnant enemy*.' The dexterous, ready fiend.  
 94. " 'The *proper false*.' The fair deceiver.  
 95. " 'Such we *be*.' Such we *are*. If *be* were proper here, it would also have been proper to say, 'Such as we *be* made of.' Shakspeare uses *be* in the latter part of the sentence that it may rhyme with 'we' in the line above.  
 96. " 'How will this *fadge*.' *Fadge* means *suit, act, work*.  
 97. " 'Fond as much.' *Dote* as much. *Fondle* is the modern form of this verb. Probably Shakspeare cut it short in order to make the line *scan*.

SCENE III.—Enter SIR TOBY BELCH and SIR ANDREW AGUECHEEK.

98. SIR TO. 'Not to be *abed*.' *In bed*, adverb. Shakspeare uses *a-hungry* a little further on. In the bible we have *an-hungered, athirst, &c.* In most instances the *a* seems to be used for the preposition *on* or *in*. In such instances as *a-hungry, a-thirst*, the *a* is probably prefixed to intensify the feelings of *hunger* and *thirst*, as *very hungry, very thirsty*.  
 99. " 'A *stoop* of wine.' A *stoop* was a vessel for liquor, used in the place of our *pots* or *pewters*.

Enter CLOWN.

100. CLO. 'We three.' This is an allusion to an old sign representing two fools drinking. The third fool was supposed to be the person looking on. Below the figures on the signboard was usually inscribed, 'We three fools be.' (Chambers.)  
 101. SIR A. 'I had rather than forty shillings.' We do not commonly place the conjunction *than* immediately after the adverb *rather*, as Shakspeare has done here. Perhaps he has done it on this occasion that the sentence might not appear tautological, as it really is, or more probably to be in keeping with the speaker of it. It would have been a simpler sentence had he said, 'I had rather have such a leg than forty shillings.'  
 102. " 'Sweet a *breath*.' Sweet a *voice*. Sir Andrew has previously used *breast* to denote the *voice*.  
 103. " 'Pigrogromitus, &c.' Names coined for the occasion.  
 104. " 'For thy *leman*.' For thy *mistress*.  
 105. CLO. 'Impeticos thy gratility.' Impetticoat (pocket) thy gratuity.  
 106. " 'Myrmidons.' *Mugmĩdĩves, ol.* Myrmidonēs, a people of Greece whom Achilles ruled over, and who accompanied him to Troy. They derived their name from the god Myrmidon, or from the ants, which are supposed to have been metamorphosed into men.  
 107. CLO. 'Bottle-ale houses.' Shakspeare refers to *Bottle-ale* in second part, King Henry IV., Act II., Scene 4. It appears to have been used as a term of contempt.

108. SIR A. 'There's a *testril*.' A coin then used.

109. " 'A *mellifluous* voice.' A sweet voice, from Latin *mel* and *fluere*.

110. Sir To. 'The *welkin* dance.' Dance till the sky turns round. *Welkin* means sky, air, element, heaven.

111. " 'Three souls out of one weaver.' The peripatetic philosophy gave to each man *three souls*, the *vegetative* or *plastic*, the *animal*, and the *rational*.

Enter MARIA.

112. " 'A Cataian.' A Romance.

113. " 'Consanguineous.' Latin, *consanguineus*, a blood relation.

114. " 'A Peg-a-Ramsay.' 'Three merry men we be.' Both names of old songs. J. B.

*To be continued.*

## CORRESPONDENCE.

*Although responsible for the insertion of the following communications, the Editor does not necessarily agree with all that is stated therein. Nevertheless he does not feel justified in simply inserting such notices as agree with his own opinion, but wishes to give fairly and without bias the opinions held by different members of the profession. A vast amount of good must ensue from the consideration of various questions intimately connected with the well-being of all engaged in tuition. The Editor, therefore, will be glad to receive any communication upon subjects connected with scholastic affairs, and if of sufficient importance will insert them in future issues of the Journal.]*

## THOROUGHLY GROUNDED.

*To the Editor of the Quarterly Journal of Education.*

SIDE by side, with the "sound English" and other "popular" notions prevalent respecting education, must be introduced that usually designated "thoroughly grounded."

It is curious to a reflective person to hear the current remarks on the education of the day, and to observe the odd glimpses first one and then another gets of its defects. Viewed from all the stand-points, it appears to leave a uniform impression. It may be hazarded, then, that education in ordinary English schools is really nearly a sham: the failures of the boys on leaving school to meet the simplest demands made on their scholarship are patent to all. Many anecdotes might be told establishing the fact. Two representative specimens met with in an extensive experience will support the conclusion arrived at above. One was a boy from an eminent public school, tried in a draper's counting-house, (why is immaterial)—he was found quite incapable of calculating the prices of the entries, and preparing the day-book for posting. His deficiency of ideas, and unreadiness at composition, rendered him helpless to aid in a varied but not exacting correspondence. The second was a pupil from a fairly-reputed private school, who, at the age of fifteen, could not understand when *read to him* from the French Testament, the verse "Un bon arbre ne peut porter de mauvais fruits, ni un mauvais arbre porter de bons fruits," had never read vulgar fractions, decimals, practice, stocks, interest, &c., the most useful parts of arithmetic, did not know the *names* of the most common Latin authors, and whose acquaintance with parsing, composition, English literature, &c., were (and are) equally deficient, and inadequate to everyday needs. When asked by parents and friends, these young men reply that in their *school* subjects (which, by-the-by, they appear to think

have not much relation to practical life) they stood as well as their school-fellows : these discoveries crop up when essential tests are applied, and the disappointed parent has to fall back upon the aid of private tuition.

Assuming these instances to be truly representative ones, what reflections do they justify? Most noticeably, that if the mere acquired information is so scanty, how little *education* of the faculties can have taken place ! that the after irrigation, in intercourse with those of the intended vocation, is the real education of the young man, that consequently the trouble of parents and the expense gone to, have not appreciably benefited their children, much to their chagrin. Is it to be wondered at, then, that the *general* public should be nearly at a stand-still, if not actually retrograding in intelligence of the highest kinds—invention, production, &c.—that they should be in the leading strings of a few active thinkers, as shown in people being Times-ites, Telegraph-ites, Saturday-Review-ites, &c., in politics, if their reading so chances ; Spurgeon-ites, &c., in religion, and so on, in short free-thinkers and cavillers, doctrinaires, dogmatists on all possible subjects at *second-hand* (at hundredth-hand would best express the fact), for one never hears a comment on the ‘news’ beyond the remarks of the editorials ; that the public mind should be utterly debauched by having and needing its pabulum selected and chewed for it, as it has, by the newspapers, &c. of the day, the capacity of the reader being enervated by the quantity an ill-stimulated curiosity lustfully revels in without attempting to digest—

“ Who reads  
Incessantly, and to his reading brings not  
A spirit and judgment equal or superior,  
\* \* \* \* \*  
Uncertain and unsettled still remains,  
Deep versed in books, and shallow in himself,  
Crude or intoxicate, collecting toys  
And trifles for choice matters worth a sponge.”

PARADISE REGAINED.

O for the Father Matthew to stem the inebriation of the ‘cheap press,’ and the soul-diluting newspaper—the abuse of “light reading !” Apropos of this apostrophe, is it not significant, and to be deplored, that a late public speaker (Dickens) should remark that “were it not for the newsmen what should we have had to talk about, and how on earth could we have possibly got on if our newsman had only for one single day forgotten us !” Need it occasion surprise that the noodle Dundreary of the stage, the music-hall frequenting numskulls of Punch, and the creations generally of the philosophic satirists (in novels, &c.) should be types of large numbers of the body politic ?

To the ordinary observer the deficiency now under consideration is, doubtless, the lack of information ; but on a closer inspection it will be found to bottom on the undeveloped *faculties*. Assuming this as proved, it must be inferred that our school method is not only not promoting mental development, but is really dwarfing the inner man—withering up the intellect. A few scholars *survive* the usual school process, but the result ought to be reversed, the school-educated ought to be quickened, and to tower as giants above the untaught. Experience, however, shows parents to be commonly right in rejecting for their children what is regarded as a high-class education, if their future career depends on thoughtful resolute energy, for somehow the “classical” education “sicklies o’er the native hue of resolution with the pale cast of thought,” and leaves the scholar indolent, lustful for pleasure, mentally feeble and starved. Hence parents so frequently request that their children may drop from their subjects Latin, Greek, Geometry, Algebra, &c. (which ought to be so stimulating), in order to acquire proficiency in—what? after drumming and drilling at French, Latin, &c., for years, the “finishing” must be re-

duced to the most elementary subjects of the school course ! Enquire of ordinary acquaintance, and the replies will generally be that so-and-so never read any Latin authors—had to drop the subject (and has permanently dropped it)—ditto French and German, Mathematics, Science; *but*, which brings us to our starting point, the rider is ordinarily added that he is “thoroughly grounded” in all the subjects dispensed with, if occasion should require him to resume them. Oh, this odious “thoroughly grounded !” The specimens described above are “*thoroughly grounded*,” the one in Greek, &c., the other in Latin grammar, French, &c. (and be it borne in mind these are by no means solitary instances) ; but the misfortune, as it never appears to have occurred to either master or scholar that the “thorough grounding” was a means to an end, that if it was not to open up to the student additional resources, to train his faculties to stronger efforts of “reasoning high,” to impart more quickness of perception or apprehension, sustained endurance if needed, and so forth, it was worse than useless, being positively mind-dissipating and dwarfing. “Interesting experiment”—start a subject amongst ordinary acquaintance—let it be one that everybody thinks he knows something about and feels interested in,—say a religious or an historical topic,—and *watch the result for one object, the mental power displayed—for the judgment*, by noticing the fitness of the proofs (say),—for *coherence*, by noticing whether the statements succeeding each other have any dependence, and so on. It will surprise the operator to find how prejudice or preoccupation blinds reason, how a stray word will entirely draw off the debaters, and introduce extraneous matter, how the concentrativeness and endurance fail, leaving the original question unsolved—in effect (an actual case), having begun with challenging the inspiration of the scriptures, to end with contesting which was the greater man, Napoleon or Wellington !

Then it appears this “thorough grounding” has much to answer for, the term as conventionally used being a cloak for indolent and incompetent teaching. Pray let the “thorough groundingites” reflect on their theory, “consider their ways,” and resolve on amendment. The master who would deserve well of his generation, should constantly demand of himself the outcome of every lesson a boy learns and does, and if the result, when obtained, is desirable and worthy of the pains bestowed on it. But especially should the tasks be designed in the first place as the exercise of some *faculty*. The implement understanding, the distinguishing gift of a beneficent Providence, should be the constant study of the instructor, its marvellous mechanism should be thoroughly *analysed*, and each *faculty*, as “found and made a note of,” should, by an appropriate curriculum, receive that exercise which will develop it to its greatest powers—knowledge, the instructor need not fear, will increase and be retained in the process, and what is of most importance, the intellect trained to exertion and expanded, will worthily assert itself both in *reception* and *production*.

LEAMINGTON, May, 1870.

J. H. MACARTNEY.

#### PUNISHMENT.

*To the Editor of the “Quarterly Journal of Education.”*

SIR,—There is very much in Mr. Hope's letter with which I heartily agree. In years past most schools were managed on a consistent plan of terrorism ; the cane, and nothing but the cane, seemed the cry. Men came to see the evils of such a plan, and the result, I think, is that in too many cases we have rushed to the other extreme. We constantly see advertisements where schoolmasters, for their own ends, pander to the weakness of parents ; “corporal punishment dispensed with” is the announcement which we frequently meet with, in conjunction with offers of unlimited food and instruction in half the sciences under the sun for £16 per year. Now, there is to

my mind, no question connected with education of more importance than this question of punishment, which, being intimately connected as it is with the forming of the child's character, must demand a more careful consideration than any question of how to give the child the greatest amount of mere information. For this reason I think all who really take an interest in real education, should strive to arrive at some definite view as to what system is best adapted to the future good of the child, independent of the ease or welfare of the teacher. Of course, there are many points to be considered: I venture to submit to your readers the following, which I look upon in the light of axioms.

1. The principal of *corporal* punishment should on no account be given up; scripture and reason alike teach it to be necessary.

2. At the same time he is the best teacher who can produce equal results with the least amount of corporal punishment.

3. The *mala prohibita* and *mala in se* certainly demand different treatments, and the child should be taught to understand this difference and the reason of it.

4. A child should not be encouraged to transgress, either by laxity of supervision or by being allowed to escape punishment, if found out. The *certainly*, not the *severity*, of punishment prevents crime.

I may at some future time return to this subject, meanwhile I shall be glad to see the opinions of other practical men.

I am, &c.,

W. G.

### A JUSTICE TO MASTERS.

*To the Editor of the "Quarterly Journal of Education."*

SIR,—I have observed in your last number a letter on the alleged ill-treatment of assistant masters by principals, on which I wish to offer a few remarks. In these days of Radicalism and revolution,\* nothing of the sort surprises me, but I must say that I regret to see such a letter admitted into the columns of your respectable journal.

It is well known that the real grievance belongs to the principal, who is daily compelled to submit to the most ridiculous demands and complaints on the part of his subordinates, of which the letter I refer to is a fair specimen. Within my own recollection the impertinence and pretensions of assistants have increased to an extent which is perfectly appalling. Instead of doing their duty in that station of life to which it has pleased heaven to call them, they try to gain the respect and confidence of our boys, and to fill their heads with all kinds of foolish ideas, which now-a-days pass for knowledge. It is a wonder to me that this nuisance has been borne by schoolmasters so long, and yet it is hard to say what remedy to adopt. If we dispense altogether with the services of these individuals, too many of the more unpleasant and unimportant labours of education will be likely to fall upon our own shoulders. I know not what the experience of other members of the profession may be, but for myself I find that the cares of caning and marketing exhaust all my energies.

I have been much struck by an idea which has originated with one of my own assistants, who, with a modesty singular in his class of life, has given me leave to make what use of it I can. This idea is nothing less than the employment of *mechanical* ushers. I calculate that these can be made at Birmingham, of the best cast iron, for about £11 15s., little more than half the annual sum which we are in the habit of giving to our present assistants. They will last for a much longer period than we can hope to retain the services of the ordinary kind of ushers, and, after the first outlay, they will only

\* See suggestion at page 159.—ED.



cost us a few shillings per annum for oil, &c. A maid servant can with ease attend to half-a-dozen of them in a morning. At night they may be kept in an outhouse, and they should be protected from damp and well polished occasionally, especially when a visit from the parents of pupils be expected.

I am having a specimen made, and shall be happy to send the fullest particulars with estimates, &c. to any of your readers, on receipt of six stamps. He is six feet high, and of good proportions, and is guaranteed to perform faithfully and efficiently almost all the duties expected of an usher. He can cut bread and carve mutton with great neatness and despatch; an enamelled register on his face records every mistake which may be made by boys who are saying their repetition to him; and being placed in the dormitory at the hour of retiring, his works can be regulated to extinguish the candle in three minutes. He can stand in the playground in all weathers, and if any pupil climbs over the wall, my usher is so constructed as to give notice by ringing a bell loud enough to rouse the principal out of his after-dinner nap. It is true that I have not yet discovered any means of teaching ornamental handwriting, that most useful branch of knowledge, by the instrumentality of this apparatus, but some of your readers may be able to suggest the requisite improvements in the machinery. When electricity and photography are brought to such perfection, it will be strange if we cannot contrive by their aid to find out the offences of our pupils, and keep them under a wholesome fear of our cane—a task which, let me tell your correspondent, the present race of ushers are totally incompetent to perform.

Whatever may come of this proposal, we must set our faces against the idea that persons concerned in the humbler offices of education are entitled to assume an air of independence, which is simply ridiculous, and privileges which we do not accord even to our parlour boarders. The disagreeable feelings consequent upon the present state of things must have given great grief and perplexity to all schoolmasters, as to

Your obedient Servant,

A PRINCIPAL OF THE OLD SCHOOL.

DOTHEBOYS HALL, *April 1st.*

#### ORTHOGRAPHY.

*To the Editor of the Quarterly Journal of Education.*

SIR,—In some respects, at least, we seem to be entering upon a new period in the history of education. In more ways than one, it is receiving a fresh impulse, and making a fresh start. The highest form of it is likely to be made still more free from religious tests. The foundations intended to provide for the grade below this will be made more efficient and more extensively useful, or at least it will be attempted to make them so. The most elementary teaching is acknowledged to be needed by all, and as far as possible it will be brought within the reach of all by a great increase of the outward means of it.

But the movement will not, or, at any rate, ought not to stop here. If it does stop here, the work will at the best have been only half done. There are two directions at least in which further progress may be looked for. Higher ideas may be formed of the object and scope of education—of the good which it can effect, and which it ought to aim at, and its whole substance, and all its method may require to be modified in order to carry out these ideas. And, secondly, it will now be more necessary than ever to devise more easy and more thorough modes of teaching single subjects—even the most common and most elementary ones. This second line of improvement, though far less important than the other, is more apparent and more immediately useful, and therefore may be expected to take precedence in order of time.

One of the acknowledged difficulties in the teaching of children, and indeed of those who are no longer children, arises from our English system of *spelling*, and a good deal of attention is now directed to the question of "Spelling Reform," or of some means by which the inconveniences of the old system may be mitigated or avoided. It is not a new question, but it seems just now to have come forward more prominently, and indeed it is easy to see its importance with respect to the extension of education, and the need that teaching should be as easy, speedy, and thorough as possible.

I may therefore suggest to your readers and correspondents a few considerations on this subject—which is an extensive and a curious one, whether treated from the point of view of the scientific theorist or of the practical teacher.

First, then—supposing *some* improvement necessary,—we may aim either at the substitution of a new system for the present one, or merely at the introduction of a system to be employed concurrently with that now in use. This latter plan is the one advocated by Mr. A. T. Ellis, who has stated his views on the subject before the College of Preceptors, the Society of Arts, and the Philological Society.

Secondly, in the former case it may be attempted either to make the new spelling phonetically perfect, or only to get rid of the most common and most inconvenient of the inconsistencies of the old system. The latter, I believe, is the plan advocated by the Liverpool Spelling Reform Association, or at least by its honorary secretary, Mr. Edward Jones.

Thirdly, if the latter alternative—the use of a *concurrent* system—be preferred, there will probably be no reason why this should not be as perfect and scientific as it can be made. But then this question may arise: Would such a system be worth anything in *elementary* education—would it make the learning of the common system easier than it is without such help—or would it even, in some circumstances, make it unnecessary to learn the common system? (Mr. Ellis thinks that his scheme *would* have these advantages.) Or, on the other hand, would it be useful only in scientific philology, or in comparing the sounds of one language with those of another, or for some similar purposes?

I offer no opinion of my own on the subject,—still less do I attempt any criticism of any particular scheme. But I may suggest it as an important and interesting subject for examination; especially in its bearing on the practical work of teaching. And I remain, Sir, yours, &c.,

A CONTRIBUTOR.

*To the Editor of the Quarterly Journal of Education.*

SIR,—The following is a copy of a letter addressed to the Vice President of the Committee of Council. I trust you may deem it of sufficient importance for publication in the next number of the *Quarterly Journal*.

I remain, your obedient servant,

South Staffordshire, 13th May, 1870.

D. C.

[COPY.]

TO THE RIGHT HON. W. E. FORSTER, M.P., VICE-PRESIDENT OF COMMITTEE OF COUNCIL ON EDUCATION.

SIR,—May I request the favour of being allowed to put before you the following brief statement. I am a member of the London University, having matriculated in 1853. For sixteen years I have been a successful private schoolmaster. But not knowing the course which legislation may take in these days of educational ferment, and in order to be prepared for every contingency I resolved to secure a Government certificate, and gave notice to that effect to the Vice-Principal of Borough Road. He kindly informed me that I was not eligible, and also who were; so that I

may see myself robbed of the labour of years, and am yet prevented by Government from qualifying myself to meet the emergency. Does not this seem a great hardship to those who, with the superior qualification which University training naturally gives, are willing to adapt themselves to the educational exigencies of the day, and are yet legally prevented from doing so?

The summing up is this :—Would it not be advisable so to modify the code as to admit of acting (private) schoolmasters being examined for the Government certificate? It could injure none, would cost Government nothing, and would certainly admit into the ranks of Government teachers many good scholars and skilful educationists.

Relying on that honesty and candour which has characterised your public career, for the due consideration of these statements,

I remain, Sir, your most obedient servant, D. C.

### CHEAP SCHOOLS.

*To the Editor of the Quarterly Journal of Education.*

SIR,—We live in an age of great show and puffing advertisements. We are constantly reminded by placards that “such and such” a daily either is the largest, or has the largest circulation in the world. We cannot look into one of these daily papers without seeing several advertisements of the “only sure cure” of “all the ills that flesh is heir to.” We are informed of two or three drapery establishments, that they are the cheapest houses in the trade, as if we were going to believe that they could all attain to that honourable position. There seems, at the present time, a greater disposition than ever among tradesmen (except butchers) to “under-sell” each other—and this disposition is perhaps nowhere manifested more than in the scholastic profession. An advertisement is seen, offering board, residence, tuition, &c., &c., to boys, for eighteen or twenty guineas\* per annum. Now, really, what can parents expect for such terms as these? When “Cheap Jack” offers his wares at remarkably low prices, distrust is felt, knowing that he is frequently also “Cheating Jack.” And yet Dr. Trickem, of Cheatem House School, offers every educational advantage, unlimited diet, home comforts, &c., for twenty guineas a year, and there are many found to believe him and to trust their boys to his care. Some may do this on account of their pecuniary circumstances. They can’t afford more, and of course have a right to get their children educated as cheaply as possible. But I think, Sir, it would be much better for them not to send their children to Boarding Schools at all, if they have not the means to send them to good ones. The majority, however, patronize them because they think that the promises put in the advertisement will be fulfilled—which, I am afraid, in many cases are not.

Look, first, at the educational advantages of these establishments. The principal is often a man who has failed in business as a “grocer” or “draper,” and as a last resort he takes up a *profession* and opens a school. Now, can he be expected to conduct a school as well as a man who has been a teacher all his life? He may get a German “handle to his name,” but that does not constitute him a “Doctor,” any more than his being principal of a school qualifies him for offering to pupils “every educational advantage.” It may be said that he merely superintends, and has assistants to do the work. Suppose that to be the case, what kind of assistants are we to expect in schools where they can only have a very small salary? We know that occasionally “well-educated (?)” youths from behind the counter “take to” teaching, and they may generally be found in the class of schools I am speaking of. Many young men make teaching a stepping-stone to something else; they merely wish for board and residence, and time for study, to fit themselves for the

\* See Calculation of Expenses at end.

ministry, civil service, &c., and as they have no interest in teaching, how can every educational advantage be offered under their care? Yet here they are most frequently found. Again, many assistant masters lose their situations frequently for misconduct, and often by a long-continued process of drunkenness and debauchery lose their character too. What do they do? Where do they go? They are content to take a small salary, and so may doubtless be often found in a cheap school trying to redeem their character. Suppose these to be good teachers, as far as secular subjects are concerned, is no notice to be taken of their moral influence? Do parents ever take the pains to ascertain whether their children receive a liberal education? I believe in most instances they do not. Willie or Lizzie brings home a beautiful prize, and they are therefore quite satisfied that sufficient progress has been made. Do not principals know that a prize will often satisfy the parents? Are we sure that they never give a prize where it is not deserved? A lady said to me the other day, "I am sure M— gave our James a prize to please us; for he certainly does not deserve it for progress in *that* subject; since he has made no progress at all."

I would here caution parents, lest they be deceived by statements in advertisements, which are strictly true. A principal used to advertise that all pupils sent up to the Oxford and Cambridge Local Examinations had passed. I happened to inquire the number that had succeeded, and was informed by the senior assistant that they had "coached-up" *one*, and got him through.

2. They are also promised an unlimited diet. Now, the very fact of this being referred to, proves quite clearly to my mind that some schools give but a limited one. I knew a school where the food supplied to the pupils was really not sufficient.\* If a boy was a little poorly, he was told he had better do without meat. If he spoke at table, his punishment was to do without pie or pudding. The pupils there generally spent their pocket-money in the purchase of eatables from a neighbouring shop. They sent home to ask for cakes, &c., but felt it too degrading to complain of the short allowance. These parcels coming to the school in considerable numbers caused the principal's wife to exclaim, "I wish the parents wouldn't send so many parcels here; it makes it look as if we starved the boys." In *that* case, Sir, appearances were not deceptive.

As terms are low, and animal food expensive, its consumption must be prevented by some means. The boys may be allowed to have pudding first, the rule being that he who will not eat pudding, or leaves any of his large "portion" in his plate, shall have no meat, for he has clearly shown that he has no appetite. An equally efficacious mode of appeasing the appetite is to give each a little bread and butter half an hour before meals.

3. Home comforts are promised. Do parents ever put their children three in one bed? Do they allow them to sleep in crowded apartments? Do children at home have to use a towel a fortnight? Yet worse than this is found at a school, perhaps, where thirty or forty boys must wash hands before dinner, in a room provided for the purpose, and all use the same towel, which continues to hang there a week!

When parents send their children out to bathe, do they give them the same towel as they have to use in their bed-room? Surely, no. Perhaps they do not have equal comfort at school. "Home comforts" certainly includes clean food, and I don't think that can always be relied on in cheap schools. As low wages only are offered, only poor servants can be expected. It is well known that a servant is judged of a good deal by her cleanliness, and when therefore that quality in the cook happens to be considerably

\* I have lately been informed of a Ladies' College, where a leg of mutton was made to last sixty young ladies for two days.

below par, the food will not always be very palatable. Bread puddings have been found to contain hair and grit, and cabbage has been brought to table with snails in it (I mean those with shells). A pig's ear has been put on a plate with the bristles and wax in it, as they were when it was in the sty! Home comforts! How about the drinkables? It may be that tea is supplied, but more frequently water and milk. The milk, as we all know, will contain quite sufficient water before it goes to the school, and it is therefore altogether unnecessary for it there to receive 80 per cent. more! Home comforts! How about the butter? In this age of invention and scientific progress this substance can be manufactured much cheaper than from cream, and it seems but natural to suppose that into cheap schools cheap butter must go. At home boys, no doubt, among their comforts have clean boots occasionally. Do they have this comfort at school, or do they have to clean them themselves? I have already trespassed too much on your valuable space, so must conclude. I sincerely hope that the day is not far distant when these educational establishments will be under Government inspection, and when no M.A. or Ph.D. will be considered as an accredited teacher, unless he can show that he has obtained his degree in an honourable manner.

June 6th, 1870.

Yours, &c., N. Y.

P.S.—The following table of probable receipts and expenses is fairly and impartially made. It is more likely that the latter are far within the mark; in fact, in several cases they are known to be, and the minimum amount for *good* assistants is named:—

RECEIPTS.	
40 pupils at 20 guineas each .....	£840
20 day ditto 4 — .....	84
	<hr/>
Loss .....	36
	<hr/>
	£960

EXPENSES.	
House rent, taxes, &c. ....	£150
Senior assistant .....	30—£60
Junior ditto .....	20—£40
3 domestics .....	20
1 matron .....	20
Maintenance of 40 pupils and 2 assistants for 40 weeks at 6s. ....	504
Ditto of principal, his family and servants, say 10 people at 6s. for 52 weeks.....	156
Clothing, coals, &c. ....	20
Apparatus, bedding, books, breakages, repairs, travel- ling expenses, medical at- tendance, &c., &c. ....	40
	<hr/>
	£960—£1010

#### PRIZES.

*To the Editor of the Quarterly Journal of Education.*

SIR,—I am very glad to see that you are admitting into the *Quarterly Journal* letters on scholastic matters from actual teachers, and I hope that through the medium of your pages we may give and take many useful hints.

As a contribution (a very small one, I admit) may I mention the way in which lists arranged in order of merit are read-out, and prizes are distributed, in one at least of our great schools? The method may be in use elsewhere, but though it is, I think, by far the best, it certainly is not the commonest. When such lists are read, and when prizes are distributed according to the usual method, *from the top downwards*, the effect produced is that of an anti-climax. Nobody except the boys named cares to hear the latter half of the list, and in the case of prize-giving, spectators show so much enthusiasm

in their reception of the highest boys who are the heroes of the day, that they have none left for those who, coming afterwards, fail more and more to excite interest, and at length to attract attention.

Here, when the result of an examination is to be announced to the school, the Headmaster reads out the list *from the bottom upwards*. Say Brown, Jones, and Robinson have been competing for a prize, and have come out in what seems their natural order, the announcement would be made as follows :—"For the Blank medal three boys were candidates ; 3rd, Robinson ; 2nd, Jones. The medal has been awarded to Brown."

In giving out the prizes the same order is followed, so the interest of the spectators goes on increasing as the pile of books diminishes, till the very end, when the best scholar in the highest form comes up to receive the most valuable prize.

This is no doubt but a small matter ; but any one who despises small matters, had better seek some other occupation than that of a schoolmaster.

Your obedient servant,

HARROVIENSIS.

### ASSISTANT MASTERS.

#### EXTRACTS FROM CORRESPONDENCE.

J. S. writes :—"The letter on the 'Treatment of Assistants' in the *Journal* amused me much—it read so like a page from 'Nicholas Nickleby.' I think it must be the production of some one but ill-suited for the profession he has chosen, and therefore obliged to content himself with *very* middle-class schools. I must say that, in the whole course of my experience (which may be considered that of a junior, as I am only 23), I never entered such establishments as he pictures. I have always been very happy and comfortable, and am particularly so here ; and I am receiving a salary which I think is honestly as much as I am worth."

On the other hand, a gentleman well known to many of our readers, says : "A truthful and plain statement. And now the subject has been so broached, could not you get Assistant Masters from most schools to send a description of all that concerns their comfort ? No doubt this would cause a stir in the Camp of Israel. Bad situations would be shunned, and the principals would have no remedy but *reform*. There is nothing but a fear of exposure to induce bad Principals to *mend their ways*. I could give you some strange instances—where truth would appear stranger than fiction—of the treatment of assistants by their principals. \* \* \* Keep your pages open to such communications as that of 'N. Y.,' and that will bear fruit, if it be only after many days. Of course, you would insert the description of good schools as well as bad ones. The former would have a tendency to shame, or drive the latter out of the market, &c., &c."

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### EDUCATIONAL RECORD.

#### PARLIAMENTARY.\*

JUNE 16.—During the discussion upon the Amended Bill, Mr. FORSTER remarked that it would be impossible to bring the revised code before the House till the Bill had passed through Committee.

(Non-certificated masters should, during the next few days, urge their claims upon Government. Under the present code, no acting-master can get a certificate unless his school is placed under inspection. This is a great hardship, inasmuch as many masters would gladly sit for a certificate, and

\* We are compelled—from the peculiar state of the Education Bill—to forego our criticism upon it, but hope a few weeks will see it become law, and then in our next we shall be able to consider the alterations which have been made.

then "look out" for an inspected school. Again, why should not acting-masters, who have been engaged, say three years in the same school, be allowed to sit for a certificate without undergoing two years' inspection? Surely an experience equal to that of a pupil-teacher has been gained during that time.)

JUNE 20.—Upon the motion to go into Committee upon the Bill, Mr. RICHARD moved a resolution in favour of general compulsory attendance, and of providing religious education entirely by voluntary effort. He pronounced the Bill to be a revival of concurrent endowment, and in fact deprecated the whole aims of the Government to come to some conclusion upon this matter, ridiculing their amendments and stigmatising them as favourable to the denominational system. The only way out of the difficulty was for the State to confine itself to literary and scientific instruction, and to leave religious teaching to the churches. The motion was seconded by Sir C. DILKE. The tendency of the succeeding speeches was favourable to the Government. Indeed, Mr. HARDY entirely disposed of the fallacious arguments brought forward in support of unsectarian, or rather secular education. He argued that by utterly ignoring the Bible, the result would be similar to that in New York, according to the report of Mr. Fraser, who says:—

"Every book, even the Bible, was banished; every sentiment to which the Romanist objected was expunged whenever demanded. Religious instruction and prayer were in many cases altogether forbidden; teachers were threatened with dismissal, and actually dismissed, for the crime of using the Lord's Prayer, and nothing remained save the narrowest Deism."

One remark of the hon. Gentleman is decidedly objectionable. He says: "You are now about to do away with the whole protection of creeds and formularies, and you are going to give to the schoolmaster unlimited power of teaching religion. *Of all people the schoolmaster is the last who ought to be entrusted with such power.*" (Why? Are schoolmasters to take their consciences from their managers? The idea that a schoolmaster is simply a piece of plastic clay to be moulded at will, by his *would-be betters*, by those who know and understand less than himself, cannot be entertained.) Again, the arguments for the retention of the catechism and formularies, must be looked upon as fallacies, for as the following speaker, Mr. MELLY, aptly remarked—"The prevailing tone of the public mind was an impatience of the creeds and formularies of man, and a very great love and affection for the words, and a determination that children should be educated in the teaching, of Holy Writ." Mr. MORLEY inferred that a crisis had been reached, and that unless factious minorities holding extreme views were willing to make mutual concessions, the measure which the immense majority desired accomplished, would not be passed. Dr. LYON PLAYFAIR and Sir J. PAKINGTON continued the discussion, and maintained the desirability of establishing a minister of education. Mr. FORSTER ably defended the course taken by the Government, and exhorted the opposition to forbear lengthy talking, in order to go on with the Bill at once. During his remarks the hon. Gentleman said that, true as he believed the principle of compulsion to be, he doubted whether it was not so novel that it would be impossible to get the House to assent to its *direct* application universally over the country; and, even if the House did so assent, whether, in the present temper of the people, such a law could be enforced. He was well aware of the easiness to say that permissive compulsion was a contradiction of terms, but the proposition is made simply as an experiment. Permissive legislation, contemplated as a final result, generally fails, but as paving the way to something further, has not seldom succeeded. He regretted the turn the debate had assumed, and thought there were other points in the Bill, equally deserving of discussion as the "religious question," or rather that too much stress was laid upon this in detriment to other portions.

JUNE 21.—The whole time was taken up with the reiteration of stock phrases—not one new argument being brought forward. The aim being seemingly to waste as much time as possible; the tone was, on the whole, favourable to the Government.

JUNE 24.—After an excellent speech from the Right Hon. W. E. GLADSTONE, the House rejected the Amendment by a majority of nearly 400.

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### OUR BOOK-SHELF.

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*Orthopraxy, the Mechanical Treatment of Deformities, Debilities, and Deficiencies of the Human Frame.* By HENRY HEATHER BIGG, Assoc. Inst. C.E. London: John Churchill and Sons.

THERE are few subjects more deserving of earnest consideration than the physical education of the young, although few have received from the moderns less direct attention. We deplore the bad habits of body which so often disfigure the frame, but the child is left almost to himself, or, from his very surroundings, has those deformities impressed on his young and pliant body. For what can be more injudicious than most of our school accommodations and the internal fittings of our schoolrooms. The awkward and constrained positions one is almost compelled to assume on the ordinary form or at the desk, would be quite sufficient to lay the foundation of some deformity, especially in a child already weak, which growing with his growth, at length assumes a perceptible shape, and exercises a baneful influence on the health and comfort of the man.

Considered as a means to an end, the human frame is a machine, contrived and finely adapted to work on the truest mechanical principles, and on these only. But it differs from all other constructions in possessing within itself the means of development, and of attaining maturity, of advancing from the less to the greater. It grows by a process of development, and is so constituted that each separate particle, by a vital chemistry of its own, tends to reproduce itself. Hence a morbid action once commenced, has a tendency to perpetuate itself without any extra effort of nature, and a deviation from the standard of healthy physical growth, however slight at first, may go on to produce one of those hideous deformities which are the opprobria of civilized life. To give only one example, what is more common than the deformity termed "round shoulders?" As Mr. Bigg justly observes in his work, "This anterior curvature of the neck is chiefly met with among the young, and is frequently the result of an ill habit." Now the ill habit it is most frequently the result of is simply the cramped position we are allowed or forced to assume at the desk in school. It is not perceptible at first, but the young frame is easily altered by forces impressed on it, and however slight the early deviation may be, it is likely, unless checked, to become exaggerated until in adult life it assumes the disfiguring proportions of "anterior curvature of the neck."

That the human frame, however, is easily altered by forces impressed on it, if true for the production of deformity, also points to the means of cure. The bad result may be counteracted by the suitable and judicious



application of a counteracting force. The study of this constitutes the science of "Mechanical Therapeutics," the fundamental laws of which are ably developed by Mr. Bigg in his work on "Orthopraxy." This is a subject of the utmost importance to the medical world, since to the physician is entrusted the care of whatever concerns the well being of the body; and if we cannot prevent we are expected to do our utmost to remedy the defects and deformities of the human frame.

As would be expected from the known reputation of Mr. Bigg as a scientific mechanician, from the time and care he has bestowed on the investigation of his subject, and from the amount of practical knowledge he brings to bear on its elucidation, he has produced a work which must place him at the head of all independent thinkers in that department in Britain. He has ably sustained his well-earned previous reputation by his new work, and the clearness with which he expresses himself is a recommendation which will be esteemed by every student of medicine. The style of the book might perhaps be gathered from a few excerpts, but its full importance can only be perceived by a careful perusal of the book itself. The chapters devoted to spinal curvatures are especially valuable to practitioners in a large town, and afford examples of the readiest and most eligible means of treating these deformities with the least possible inconvenience to the patients. The principles regulating the application of suitable mechanical appliances for their cure are simply and clearly laid down, and apply to each separate form of the deformity, while careful drawings of most of the appliances themselves, and diagrams, amply explain their construction and application.

The subject of artificial limbs, and remedying defects caused by gun-shot wounds, must always be an anxious one for a large class of men who have the care of the army and navy. In this respect we would strongly recommend Mr. Bigg's work to the attention of men who intend to join these services. The entire work, however, is one which commends itself to all who are interested in the practice of medicine, and will be found of great value by the student and the practitioner alike. We only regret that space does not permit us to discuss its merits more fully. But we are glad to see that a desideratum long felt by the medical world has at length been supplied. R. A. S.

*Arithmetic for Schools.* By the Rev. F. CALDER, M.A. Longmans, Green & Co.

It is not difficult to suggest improvements upon the existing text-books of Arithmetic. Authors generally speak too much of the abstract, and scarcely at all of the real tangible manner in which the science may be treated. Numbers are applied to abstract quantities instead of real bodies. Any boy will understand much sooner the value of the number 20 when connected with marbles, pence, or strokes, than when unconnected with anything of this kind. It seems singular that the means for the study of this all-important subject are so inadequate to the requirements. New volumes are constantly issuing from the press, yet not one gains the general support of the profession. Barnard Smith's, Todhunter's, and Colenso's, are perhaps more widely distributed, and come nearer the standard of perfection than any other, but no one engaged in tuition is really satisfied with either of these.

The book before us cannot be said to be equal in any respect to either of those previously mentioned. The arrangement is bad, the examples are too meagre, and lack that progressive nature so essentially requisite in leading young minds onward, step by step, without taxing their powers too much. If the accompanying letter-press were entirely erased, and the space thus gained filled up with new examples, rightly arranged, the book might prove useful. Arithmetic is best taught by oral explanation, and when possessing this, it is seldom or never that the student looks at the letterpress. As each example is finished, the next is practically explained by the master, and then worked by the pupil. Private students who may not have this aid, will find the explanations given, and the examples worked, much too short to be of any real benefit.

We take this opportunity of protesting against a system which is becoming very common, viz., that of referring to some other book of the author, for the explanation of something mentioned in the one we may be reading. This may be very profitable to the author and publisher, but if we buy an arithmetic purporting to deal with that subject, we have no wish to expend money in half-filling our bookshelves with Commentaries upon our first purchase. Every book of this kind should be complete in itself.

Another fault in the Rev. F. Calder's book, we think, is that the answers to the examples are not given. It may, perhaps, be said that many masters prefer this, as the pupil may make a wrong use of them. If a sharp supervision be constantly carried on, and a rule made to the effect that every boy should show the working of his sum, then we maintain no bad use can be made of the answers. On the contrary, the omission necessitates the purchasing of a key or the working out of every sum, neither of which we care to contemplate.

We do not see Mr. Calder's reason for placing decimals immediately after the first four simple rules. His examples are not so arranged as to require their use, and we very much doubt their utility till the student is more advanced. That a knowledge of decimals is easier to obtain than of vulgar fractions we firmly believe, yet the knowledge of one necessitates that of the other. A decimal is simply a vulgar fraction, with a denominator 10 or multiple of 10.

The larger Arithmetic, which the author has published, may be free from these faults, (we cannot say whether it is or not, because we have not seen it) and may present as thorough a course of instruction in this science as can be desired in any text-book," but all we can say of this abridgment is that it is useless as a school-book.

C. H. W. B.

*Three Lectures on Education.* By ADOLPH OPPLER, L.C.P. Longmans, Green & Co.

HERE we have a volume of Lectures on Education by Mr. Adolph Oppler, Principal of New College, Arundel Square, which shows how well and deeply its author has studied his profession in all its bearings, and proves how thoroughly acquainted he is with all the best authorities on the subject. Evidently, too, he has bestowed upon his work much

original thought, and displays a happiness and accuracy in the mode of expressing his ideas, seldom, if ever, attained by a foreigner. Without pretending to be throughout a deeply metaphysical treatise, it yet places before its readers, in an interesting form, the highest theories with which the educator is concerned. The extracts are given both as translations and in their original languages, and are so interwoven with the rest of the work as to form with it a symmetrical whole. The first Lecture, in treating of Education among the Greeks and Romans, points out wherein the example of these is worthy of the imitation of modern educators. The second proves beyond the possibility of contradiction that education is a science as well as an art. The third is more practical in its nature, furnishing us with some excellent maxims by which to raise the standard of our teaching. The book is calculated to induce a more general and complete study of the theoretical works of all ages and nations, and we have no hesitation in saying that a careful perusal of it will be amply repaid by the instruction it will yield to the thoughtful reader of its pages.

T. B. P.

*Ancient Classics for English Readers, Vol. III., Herodotus.* By G. C.

SWAYNE, M.A. Price 2s. 6d. Blackwood and Sons.

THE editor of this series has evidently selected his coadjutors with great care, fully understanding that the success of the idea depends in no small measure upon their abilities. His confidence has not been misplaced, for Mr. Swayne has, by an excellent performance, followed closely in the steps of his leader. The book before us shows no falling off in style or attractiveness, and may safely vie in usefulness with the preceding volumes. In one or two instances the writer, by comparison with the ancients, has reminded us of several blemishes still existing in modern civilisation. Thus, when speaking of the Scythians, he says:—

“They were also distinguished by drunkenness and dislike of foreigners, like some of their supposed descendants, who are not yet cured of these weaknesses,” p. 95.

Again, whilst cavalierly dismissing in a few brief sentences, the Greek inuendo that the Persians were obliged to be “flogged into action,” he remarks:—

“The lash has not prevented Russians and Austrians—not to mention others—from fighting well.”

With the publication of these volumes there can no longer be any reason for neglecting to make acquaintance with classical history, and we hope to see them extensively used.

*A Few Words on Private Schools.* By Jos. H. HUTTON, B.A., of Old Hove House School, Brighton. H. & C. Treacher, 1, North Street, Brighton.

A VERY sensible pamphlet upon the position which it behoves private schools to take up, now that the public is aroused—may we say *thoroughly* aroused?—to the necessity of all such schools being good ones. We may disagree with Mr. Hutton in some particulars, as, for instance, where he seems to limit the work of private schools to boys who may be deficient in *mens sana* or *corpus sanum*, but we have to thank him for many good and useful hints. He protests most vigorously against the foolish interference of parents with school-work and disci-

pline, and the want of self-respect in teachers, which leads them to submit to such interference. We entirely agree with his remarks on this subject, and also with his objections to the system of the Oxford and Cambridge local examinations, which, while they may act as a spur to a bad teacher, are often found to cripple the exertions of a good one. For this reason we welcome the proposal of an authorized examination of a whole school, not of picked boys, and in the regular school work. We are also pleased to see that while distinctly upholding the necessity of religious education, our author is not led away by the idea that this consists of cramming as many chapters of the Old Testament as possible into the mind of a boy.

This little book is valuable as another proof that the private schoolmasters of England are bestirring themselves and exhorting one another to be up and doing. We shall be glad to see other nails of this sort hammered into the coffin of Squeers and his kind. A. R. H.

*Introductory Physical Geography.* By D. PAGE, LL.D. Fourth Edition, 2s. Blackwood. *Elementary Physical Geography.* By J. DONALD, F.R.G.S., 1s. W. and R. Chambers. *Geography for Schools.* By A. H. DICK, Dr. Sc., M.A. T. Murby, 32, Bouverie Street. *England at Home.* By W. E. LITTLEWOOD, M.A. Cassell, Petter, and Galpin. *Atlas of the British Empire.* By KEITH JOHNSTON, LL.D. A. and K. Johnston.

THE science of Geography, after having been for a long period in a lethargic slumber, shows at length some signs of vitality and approaching activity. Thanks to the exertions of the Royal Geographical Society, it is becoming more and more a settled subject in the routine of our public and other schools. The text-books upon this subject are numerous, but, as a whole, not trustworthy. In the majority, fallacy takes the place of fact. Scarcely two agree upon any one topic, whether it be the length of a river, the population of a town, or the height of a mountain. Doubtless our information is sometimes defective, but not sufficiently so to account for the various vague surmises which are ingeniously inserted in our text-books as facts. Geography is rightly studied under the two divisions Physical and Political. Dr. Page has given us a really good book upon the former branch of this science. The public, ever ready to patronise sterling merit, has shown its appreciation of his labours, by calling for several editions of his work in rapid succession. My space will not allow of criticism, so I must be content with simply recommending the book. The next one mentioned in the above list, contains much valuable information, but in too condensed a form, to vie in usefulness with the previous work. Yet its utility will be great where time is an object, and it is found desirable to gain some knowledge of this subject. The *Geography for Schools* is well-adapted and arranged for use in the major portion of our primary and commercial schools. The greater part of the book is devoted to the consideration of England and her dependencies. The nursery again will welcome the petite manual of Mr. Littlewood, which is attractive in form and matter. The *Atlas of the British Empire* will prove a great boon to students who have specially to prepare themselves in this

subject for various examinations. The manner in which the work is executed, is a credit to even this well-known house.

#### BOOKS RECOMMENDED FOR THE USE OF STUDENTS.

Our attention has been directed to the fact that many private students, and even tutors, do not know the text-books best suited for the preparation of candidates for various special examinations. The following list of works contains such as have been found practically of most service. The majority—by the courtesy of the various publishers—we have been able to examine. The remainder are highly recommended by gentlemen who have had great experience.

#### LONDON MATRICULATION EXAMINATION, JANUARY, 1871.

ARITHMETIC.—Girdlestone, 6s. 6d., *Rivington*; or Barnard Smith, 4s. 6d., *Macmillan*.

ALGEBRA.—Todhunter, 2s. 6d., *Macmillan*; or Colenso, Part I., 4s. 6d., *Longmans*.

GEOMETRY.—Potts, 4s. 6d., *Parker*.

We prefer to use Euclid till the question has become more settled.

MECHANICS.—Wormell (the new edition), 4s., *Groombridge*; or Todhunter, 4s. 6d., *Macmillan*\* (new edition).

HYDROSTATICS,† &c.

CHEMISTRY.—(1) Gill, 4s. 6d., *Walton and Maberley*; (2) Barff, 4s. 6d., *Groombridge*; (3) Williamson, 8s. 6d., *Macmillan*.

Two of these works should be used—either (1) and (3), or (2) and (3). If the latter, we should advise the student to begin learning the symbols at the commencement. (3) is by the Examiner, and all the questions are worked out—a boon not to be despised by the private student.

HEAT.—Orme, 4s., *Groombridge*; Stewart, 7s. 6d., *Macmillan* (new edition).

LATIN.—Bryce's Virgil, Parts I. and II., 2s. 6d., *Griffin & Co.*

The notes are excellent and exhaustive.

GREEK.—Cyropædia, 6s. 6d., *Whittaker*.

We do not know an English edition of Book II. published separately.

ENGLISH.—Angus, 5s. 6d., *Religious Tract Society*; and Latham, 4s. 6d., *Longmans*.—We have Edition V.

FRENCH.

We prefer consulting another examination paper, to gain a better idea of what the Examination now is, before deciding upon any book or books.

Books for Oxford and Cambridge Local Examinations in our next.

\* Since the above was written we have received these works, but have not yet thoroughly examined them.

† We think it probable that text-books especially devoted to this subject and Optics will be published soon. Acoustics are not required.

Information regarding any of the London University Examinations may be had by applying to the editor of this journal; also, answers to any questions in the above-mentioned works, and examination papers upon the above subjects will be sent to any student who is a subscriber, upon payment of such expenses as are absolutely necessary, such as postage, &c.

*Notices of Light Literature and Serials are crowded out.*



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VOL. II.

HISTORY IN FRANCE.

BY J. R. MORELL,

*(Late one of Her Majesty's Inspectors of Schools.)*

**S**INCE the remarks in our last issue (p. 145) were written, Europe and the World have met with the greatest surprise in history, while France has passed in five short weeks from the prestige of the first military power in the world to the humiliation of the greatest military disasters on record. The surprise of the former, and the frustration of the latter, are partly traceable to the same cause.

During a long series of years, the most eminent writers of France had so pertinaciously envied the Napoleonic legend with a halo of glory and fable, that some of the gilding had even coloured the thoughts and writings of surrounding nations; and although the good sense and deep research of Germanism was in a great measure free from this influence, our connection and alliance with France of late years had tended to create these illusions about the incomparable bravery and strategy of French armies, which won a portion of the orthodox belief of a large party in England.

But if this conviction pervaded a large section of writers in England Italy, Belgium, and even Russia, in France itself the malady of national conceit and overweening self-complacency had the most fatal consequences. Not only did these exaggerations absorb and destroy the falsifying of the periodical press, and thereby teach it that systematic veracity of facts which led to deplorable catastrophes in this war of 1870, but all the seminaries of education, the speakers in the Chambers, and the most classical works of the day were discoloured and damaged by a system of self-idolatry amounting to a complete intoxication, and tending, as before remarked, to such a neglect of the improvements, language, and geography, but, above all, strategy of other countries, that a great disaster was certain to ensue. As an illustration of the latter, remember, we have only to point to the fact that the only strategy opposed by Napoleonic marshals to the unrivalled combinations of Moltke, was the system of warfare acquired in bush-fighting with Algerian tribes, coupled with a disregard of vigilance that can only be explained by the conviction propagated by the press, that French soldiers

had only to show themselves to dissipate all enemies as a cloud. Nor must it be supposed that we exaggerate in attributing these convictions not only to the ignorant peasantry, but also to the educated classes. One of the most popular journals\* of Paris, at the outbreak of the war, when it heard of the destruction of the bridge of Kehl, remarked, "Eh bien ! les soldats Français feront comme les apôtres ; ils marcheront sur l'eau." The writer has also heard an important functionary remark that the French would of course carry the war into Germany, adding—"N'avons-nous pas traversé le Rhine dix mille fois ?"†

But the importance of the theme on which we are engaged, and the warning lesson it gives to other nations not to go to sleep under their past laurels, bids us advance direct and sufficient proof of this prevalent taint in classical works of French literature. Passing for a moment from the agitated arena of modern warfare to the calmer regions of philosophy, we find the self-complacency of the French mind discolouring even the eloquent pages of Victor Cousin. Not satisfied with a just tribute to the great powers and services of Descartes, Cousin, in his *Neuvième Leçon*, does not scruple to launch into unworthy invectives against the great German philosopher Leibnitz, and to exceed the measure of historic impartiality in making Descartes dominate all the great intellectual movements of the latter half of the seventeenth century. Cousin endeavours to depreciate Leibnitz by attributing his *Monadology* to Glisson, and by accusing him of centering the essence of matter in force, which is the tendency of our greatest and latest modern thinkers.‡

The tendency to see Gauls the prime agents of all the great movements in history,§ is apparent in authors who on most points are entitled to high praise for research, style, and fairness. Thus, "*L'Eglise et l'Empire Romain*" of M. de Broglie represents the army of Constantine overthrowing Paganism, as a Gaulish army, and other writers of merit consider that Julius Cæsar crossed the Rubicon, and conquered Pompey with Gaulish legions.|| It is the same overweening conceit that, with certain honourable exceptions, such as Ozanam,¶ has made French historians and writers generally apply notoriously inaccurate appellations to important events and facts.

Thus Charlemagne is invariably a French Emperor, and his empire is French, and not German. Again, William the Conqueror sends an army of Frenchmen to the conquest of England, whose vanquished Anglo-Saxons are styled *Anglais*.\*\* Then, at the battle of Poitiers, the

\* The *Figaro* or the *Gaulois*.

† Another instance in the writer's knowledge is that of a man of property in Lorraine, (Département de la Meurthe), near Sarrebourg, the mayor of the village, and a man of Parisian *Lycée* training. This gentleman was heard by the writer to say—"Nous n'avons jamais été battu que trois contre un." Yet the populations of France and United Germany are about equal in the present war, and at the battle of Vionville, 16th August, 1870, one Prussian army corps struggled victoriously against three French corps.

‡ Manuel de l'Histoire de la Philosophie. We may add that Cousin strives to rob Bacon of all originality.

§ We have even found French writers giving a large share of the Carthaginian victories to the Gaulish mercenaries in its service.

|| Without instancing the Emperor Napoleon's "*Julius Cæsar*," we may point to a large number of French *travaux* on the same subject.

¶ See his "*Germanis avant le Christianisme*," and his "*Francs au Cinquième Siècle*."

\*\* Thierry's "*Histoire de la Conquête*" throughout.

so-called victorious English army is represented to have consisted principally of Poitevins, Angevins, Bordelais, in fact, Frenchmen. It is the same spirit that induced the able and amiable Dupanloup, Bishop of Orleans, in one of his works to speak of "nos incomparable soldats," and led Guérin, the historian of the "Guerre de Russie," to say, "Dans l'armée Française toutes les troupes sont des corps d'élite."\* It is this same self-complacency that has led to the great disasters of the nation, by disposing them to depreciate everything not French in the same proportion that they over-estimate themselves. The sacred soil of this Flowery and Celestial Empire of the West could never be occupied or invaded by a stranger, at least without treachery. Hence the spy panic of 1870, and the cry of treachery in 1815 addressed to Grouchy, and a host of other soldiers good and true.†

France being the centre of civilization, and Paris the light of the world,‡ all must come to it to learn, French must be the universal language, and all things outside are beneath contempt. A smattering of German and English was indeed attempted in the colleges, but with lamentable results; and the ignorance of educated Frenchmen relating to all outside Paris and France is proverbial. The press and literary classes being thus in the dark, it is not surprising that the French peasantry are among the most ignorant in Europe, and full of absurd legends as regards the recent history of France. Among other illustrations of the way in which the most accepted French historians misrepresent things foreign to France, take the following specimen from the pen of M. Michelet:—

"Ce grand peuple anglais, parmi tant de bonnes et solides qualités, a un vice qui gâte ces qualités mêmes. Ce vice, immense, profond, c'est l'orgueil. Cruelle maladie, mais qui n'en est pas moins leur principe de vie, l'explication de leurs contradictions, le secret de leurs actes. Chez eux vertus et crimes, c'est presque toujours l'orgueil; leurs ridicules aussi ne viennent que de là. Cet orgueil est prodigieusement sensible et douloureux; ils en souffrent infiniment, et mettent encore de l'orgueil à cacher ces souffrances. Toutefois elles se font jour; la langue anglaise possède en propre les deux mots expressifs de *désappointement* et de *mortification*.

"Cette adoration de soi-même, ce culte intérieur de la creature pour elle-même, c'est le péché qui fit tomber Adam, la suprême impiété. Avec tant de vertus humaines, ce sérieux, cette honnêteté extérieure, ce tour d'esprit biblique, nulle nation n'est plus loin de la grâce. De Shakespeare§ à Milton, de Milton à Byron, leur belle et simple littérature est sceptique, judaïque, satanique. 'En droit,' dit très bien un logiste, 'les Anglais sont des Juifs; les Français, des Chrétiens.' Ce

\* Another sentiment in a popular work given as a prize in the Lycées, with Imperial sanction, was this:—

"Pour notre armée toute l'Europe la connaît;

Pour notre marine, elle attend son heure."

"Le Mont Cenis et la Savoie." 1865. "

† Thiers' "History of the Consulat and Empire."

‡ We find with regret this exaggerated style in the Republican Victor Hugo.

§ Je ne me rappelle pas avoir vu le nom de Dieu dans Shakespeare; s'il y est c'est bien rarement, par hasard et dans l'ombre d'un sentiment religieux. Le véritable héros



qu'il dit pour le droit, un theologien l'aurait dit pour la foi. Les Indiens de l'Amerique, qui ont souvent tant de penetration et d'originalité, exprimaient cette distinction à leur manière: 'Le Christ, disait l'un d'eux, c'était un Français que les Anglais crucifièrent à Londres, Ponce Pilate était un officier au service de la Grande Bretagne.'"

The North American mentioned in the last paragraph might quite well have been a French peasant in a remote province; and this ignorance is fostered by the press, and brings down heavy judgment on the nation.

Two recent instances of French appreciation of outside merit, as contrasted with that of Germany, will help to explain the contrast of the two nations in point of historical truthfulness.

It is not very long since the scientific world was astonished with an attempt in France to fix plagiarism on Newton; and it was only after a sharp controversy that the matter was set at rest by documentary proofs of the dishonesty of the evidence brought forward to depreciate the great author of the *Principia*.

Now again, though in a milder and less hateful form, the old leaven shows itself in the attempt to divest Mr. Darwin's theory from the merit of originality by attributing the idea to others and to Frenchmen.

The name of M. de Quatrefages stands high in the scientific world of Europe; and when he publishes articles under the head "*Charles Darwin et ses Prédecesseurs Français*," we may be sure he does not go so far as many of his countrymen in robbing Darwin of originality. In fact his papers are only an expression of a universal system to which I have found few, if any, exceptions during some years' study of France and the French, especially in their colleges and the Press. It would be idle to suppose that none of the ideas or expressions of Mr. Darwin's theory have been anticipated. Perfect originality is unknown to poetry or prose, so far as we know them. A brief survey of the arguments and names advanced against the originality of Darwinism is sufficient to show that the chief motive in attacking it arose from the fear that it would diminish the fame of the French naturalists, Buffon and Cuvier. Very different has been the appreciation of it in Germany, where the Jena professors have welcomed it as making an epoch in the progress of science.

But reverting to the special province of political history, and taking as examples, first, M. Thiers' history, and, second, the most popular and widely-circulated cyclopædia, we confess that we have not been surprised at the attitude of the French periodical press or the disasters of the French arms in 1870.

Any attempt to go into close details in criticising the history of M. Thiers would be out of place here; but two or three pointed illustrations will suffice to confirm our statement.

Among other frequently-recurring insinuations, I find that of excessive

de Milton c'est Satan. Quant à Byron, il n'a pas trop repoussé le nom de chef de l'école Satanique que lui donnaient ses ennemis ce pauvre grand homme, si cruellement torturé par l'orgueil, n'eut pas été fâché, ce semble, de passer pour le diable en personne. (See Michelet's Introduction à l'Histoire Universelle, sur ce caractère de la littérature anglaise.)

prudence against the Duke of Wellington in the Peninsula. His prudence at Talavera and Salamanca are dwelt upon as if it amounted to timidity and over-caution. With the details of the battles we are not here concerned; though numbers, heroes, and facts are sadly disfigured by M. Thiers drawing almost exclusively from French and garbled sources. We have to meet the charge of prudence amounting to timidity; and we have its refutation in the pages of M. Thiers himself, for, speaking of the wonderful dash at Oporto in 1809, when Wellington's operations ended in the total discomfiture of Soult, the historian taxes the passage of the Douro as an undertaking almost foolhardy in its daring.

Again, the English soldier is run down as a large feeder and bad walker in contrast with the French. Yet, Dupont's corps was so demoralised by the heat of Andalusia as to be unfit to meet the enemy, and forced to surrender; and the climate of Mexico is urged as the cause of French disaster, while Havelock's march in an Indian heat did not prevent his gallant band from gaining victory after victory under fatigues almost exceeding any that troops have ever borne. It will be impossible to pursue these remarks, except to point to the invariable attempts of the historian to mitigate French disaster, as at Barrosa and Arroyos-Molinos, and the want of honesty with which Wellington's compound armies in the Peninsula and in Waterloo, are reckoned as Anglais when the Englishmen never exceeded one-half of their number, while he never omits to notice as a disadvantage if a French corps was partly composed of other contingents.

These departures from historical candour in a writer such as Thiers must, of course, be greatly surpassed by second and third class writers.\* Thus, General De Vaudoncourt, in a "Popular Cyclopædia," has enriched French literature with a series of myths represented as French victories, the number of the combatants requiring complicated subtractions or additions, and all his papers illustrating the remark that, with statements of Gascons, you must deduct one-half and dispute about the rest. When French historians come to relate the wonderful campaign of 1870, I should be surprised if I did not meet in them the remark made to me by a Frenchman soon after the receipt of the great telegram, "*C'est impossible, après tous nos succès, que l'Empereur et 40,000 hommes se soient rendus prisonniers, sans qu'il y ait eu trahison! Impossible.*"

Before concluding for the present these remarks—which we hope to continue in some future number—it is but fair to add, that for some years French writers, chiefly of republican sentiments, have entertained and published in other countries views on history approaching nearer to the domain of prose and fact.

Even in Paris, during the last year or two, works have been admitted, republished, and circulated, which at one time were rigorously prohibited. Thus the "Campaigns of Leipzig and Waterloo," by Colonel Charras, who died in exile, have been republished at Paris, and contain very severe criticisms on the errors of Napoleon I. in those campaigns,

\* M. de Bazancourt, the Imperialist Court historian, in his official accounts of the Crimean War and the Italian Campaign of Solferino, regales his readers with singular departures from fact and deviation from truth.

strong reflections on his personal defects, and animadversions on the evils of despotic and arbitrary government in France.

Again, we have before us a short work published by Baillière, in the Bibliothèque d'Histoire Contemporaine, entitled "Napoleon I. et son historien M. Thiers." The book is written by a Frenchman, Jules Barni, and consists of lectures originally delivered at Geneva, but subsequently collected and published at Paris.

The tone is one of unvarying severe condemnation resembling Dr. Channing's denunciation of the inordinate ambition of Napoleon I., but our limits prevent us at present from entering into any further analysis of the work. We may just add, however, that the book must have considerable merit, and be phenomenal as a French view of the Napoleonic legend, inasmuch as the Germans have thought it entitled to a translation.

But probably the greatest misfortune from which France has suffered, has resulted not from the perversion of history, but the want of history altogether in a large part of the population.

The war of 1870 has brought strange things to light. We have heard of French generals profoundly ignorant of the geography of their own country, and that the Prussian staff are far better acquainted with France than the French staff.

This is part of the same system. Accordingly it is natural to expect a large stratum of gross ignorance among the people. Indeed, their ideas of past and present history and of political geography are wonderful. This might seem natural among the peasantry, a large part of whom can neither read nor write, and whose knowledge of passing events is derived from what the town crier doles out to them with beat of drum.

But it is amazing to find even in the respectable shopkeeper and mechanic class an amount of ignorance positively startling when compared with the average intelligence of the people across the Rhine.

Accordingly such a people was found an easy instrument by designing men. It is much to be feared that the misstatements of the press and the Government induced a large part of the people in France to believe that Germany was in the wrong and aggressive, and France injured and defensive in this war.

One illustration may show the evil and danger of this state of things. A worthy elderly tradesman in a French country parish, the soul of honesty and a good innocent creature, but as usual ignorant of reading, and led away by all the rumours of the moment, informed the writer gravely about the time of the Battle of Gravelotte, that the French had gained a "victoire éclatante, sur les Autrichiens," and taken twelve standards. Autrichiens, Russiens, or Prussiens were all one to the worthy old soul; his historical clock has stopped since the war of Solferino, and he lives in beautiful ignorance of present and past events, receiving eagerly and believing all the *canards* that fly about freely in his native village.

If there be a hope for the future of France it is in the education of her people; but while she plays at war at a loss of forty millions for six weeks' *amusement*, that future looks dark for her. The expenses of this war given to national education would have saved France and made her great.

Another and a more important protest against Napoleonism and les Idées Napoléoniennes has appeared in the *Histoire de Napoleon I.*, by M. Lanfrey. It is impossible to attempt to do justice to this important work in the limits of this article. We hope to do so on a future occasion. For the present it will be sufficient to remark that after all the incense lavished in France on Napoleon and Napoleonism, and the amount of historical perversion and fable in the approved and classical works, such as Thiers', it is refreshing to find truth issuing at last even from French sources, and it augurs well for the future of the Republic that the more honest and truthful statements generally emanate from the liberal and republican party.

Nevertheless, we cannot be blind to the fact that French writers of all parties and in all branches of literature are influenced by the national epidemic. We have alluded to Cousin and to Thierry, and we have been pained to trace the same morbid self-complacency when we should have looked for a healthier and a truer spirit. More especially have we regretted to see the infusion of these errors and fables more or less in all works intended to form the national mind—in educational works, manuals and summaries. We have been able to trace their evil influence in the French youth and colleges, where a spirit of restless ambition, of want of a proper sense of duty, and patient love of work, of insubordination and greed of glory, have been fostered to an extent difficult to be realized by those who have not worked among them.

Thus the received historical manuals officially authorised in the colleges, such as those of M. Duruy, Imperialist Minister of Education till 1869, were filled with these exaggerations, fostering national vanity, and producing, as they account for, that feverish love of aggression and encroachment exemplified in the late declaration of war against Germany. It is also unfortunate that the present generation of Frenchmen, trained under this unhealthy influence, can with difficulty emancipate themselves from the thralldom of these prejudices. Accordingly, the Republic has to combat the most adverse influences; for, however disposed it may be to peace, it has to deal with a race of men pledged to a belief in the supremacy of French influence throughout the world in arts and arms.

As it is so difficult to obtain a just estimate of things from French minds, it is the writer's conviction that little hope of a truer spirit in the nation can be entertained till they condescend to study foreign languages and literatures, and to acquire sobriety and impartiality from the historians of more moderate, though rival races, who, as in the case of German historians, such as Schlosser, Ranke, Menzel, and a host of others, have sought calmly and sincerely to represent the truth.

If the humiliations of the present war should lead to this result, they will have conferred a blessing on French literature, and on the French character.\*

\* It may be regarded as a ground of hope for a better future for France that some leading journalists have lately uttered earnest words of truth. Thus M. Lemoine in the *Journal des Débats* remarks: "The first cause of the misfortunes of France has been falsehood. Not only have we been lied to, but we have lied to ourselves."

## THE TEACHING OF GEOMETRY IN ELEMENTARY SCHOOLS.

BY R. WORMELL, M.A.,

Author of "*Mechanics*," "*Hydrostatics*," &c., &c.



FROM the time of Plato, over the door of whose academy at Athens was written the inscription, "Let none ignorant of Geometry enter here," the systematic study and demonstration of the properties of geometrical figures has been generally acknowledged one of the best exercises for gradually training the mind to habits of thought and accurate reasoning; nevertheless, the methods of teaching the subject in England have received but little attention, and the advancement in this department has not been at all proportionate to that of other subjects of education. There are Normal Colleges and other institutions in which teachers are assisted in acquiring the best ways of teaching grammar, geography, arithmetic, algebra, and physical science; the methods of teaching the classics and modern languages have been much improved of late years; but where has the question been fairly examined—How may we best teach geometry? The chief reason is that elementary geometry is considered synonymous with "Euclid," and in the great majority of schools learning geometry is simply committing to memory the definitions, axioms, theorems, and problems of the famous "Elements." The work of the super-eminent geometer was never intended, however, for young students, and is in fact totally unadapted to the requirements of elementary education. Boys are not able to appreciate those points which have been the great aim of the author. A preparatory mental training is required before such a system of purely abstract reasoning as that devised by Euclid can be read with interest and success. Except where there is special mathematical talent, this requires considerable time. Before a child can grasp the mathematical conception of a straight line and the properties it involves, a long series of mental operations must be passed through, and at present he has to grope his way through them in the dark. In this subject alone, of all the parts of the educational course, he finds no aid and no sympathy from his teachers or his books. It is no wonder that a large majority of young students look upon geometry as hard, lifeless, uninteresting, and repulsive. The beginning is ignored, and, totally unprepared, the student is plunged *in medias res*, his brain is wearied out with new and strange ideas, and he is disheartened by a want of success which he does not encounter in any other part of his work. If, however, all that has been learnt of late years on the subject of improved modes of teaching was brought to bear on this subject, it could be taken up and completely mastered by every pupil of average ability.

It is a consequence of our adhesion to Euclid as the sole and all-sufficient text-book that the plan of geometry in the elementary school course has not been rightly understood. With suitable methods of teaching, the study of this subject may be commenced at a very early

age. It should certainly precede algebra. There is essentially nothing in the elements of geometry comparable in complexity to the resolution of an algebraical expression of the second degree into factors, to the use of the negative sign, or to the theory of indices. The symbols employed in elementary geometry are less general than those of algebra. In the former a proposition is demonstrated by reasoning on a particular example, in the latter the symbols must be as general as the argument itself. On this account the mind is prepared for the study of the properties of figures at an earlier stage of its development.

All sciences begin with the concrete, and the most successful teachers of the young are found to be those who prefer abstract notions to the familiar experiences of common objects, and explain general properties by means of natural illustrations and practical applications. This course is especially adapted to the teaching of geometry, which owes its superiority as a mental discipline to the fact that in the elementary stages all the results of reasoning may be tested by observation. At first, therefore, generalization should be worked out from particular examples, and every theorem and problem accompanied by its applications in the ornamental and industrial arts. The pupil should work with paper, pencil, ruler, and compasses always in hand, and practical and theoretical geometry should be taught together. In secondary and primary schools this plan should be followed throughout, for in this case the learning of the facts of geometry with a view to applying them in the arts is in itself an object worthy of attainment. Where, however, boys are able to proceed to the higher mathematics the preparatory course here recommended will enable them to commence at the age of thirteen or fourteen a course of purely abstract and logical geometry. In dealing with the generalized ideas of these higher studies they will be greatly assisted by having thoroughly comprehended the more elementary notions: their interest will be aroused and their progress will be rapid. It is frequently astonishing to mark in how many students to whom the commencement has been made clear the taste and power for mathematics are rapidly developed.

It is advisable that the same general plan and the same order of subjects should be observed in the initiatory and in the subsequent course, and as there are very many reasons why the latter should recognise and take advantage of the modern advancement of the science, and the simplest and most elegant modes of demonstration, the two questions of the introduction of geometry into the early school course and the general treatment of the subject must be discussed together. Indeed the former is the more urgent matter of the two, and to the elementary teacher in particular it is important that the question of modern geometry versus Euclid should be definitely settled. When a student has thoroughly and systematically gone through a consistent course of geometry he ought to be able to answer any question which can be given on the more important properties of figures, whether they are framed in Euclid's words or not; and provided the examiner will accept impartially all demonstrations which are accurate and logical, although they may differ from those of Euclid, it does not matter what system the student

pursues in preparing for each examination. The teacher may direct him through whatever course he believes to be most scientific and accurate, and by which the greatest progress can be made in a given time. It frequently happens, however, that a whole school undergoes examination. In this case great injustice will be done to teachers and pupils if, on the one hand, a modern system be followed and an examiner tests the work only by Euclid; or if, on the other hand, the ancient régime be tested by the new. An instance of this came before our notice lately. An examiner, whose knowledge of geometry was confined to Euclid's Elements, was sent by an examining body to test a large school in which geometry was taught according to modern methods. The examination paper contained questions on definitions, axioms, and propositions, indicated by means of their numbers. The highest division of the school, containing from fifty to sixty boys of ages from twelve to fifteen, answered the questions in order from first to last, and the examiner reported that their work was in every way and in the highest degree satisfactory; but with the lower divisions (age ten to twelve) great fault was found. The work of these boys had not been fairly tested, because the examiner had misunderstood it.

It is very important, therefore, that teachers should push forward the discussion of methods until our influential examining boards and principal teachers are more unanimous in their views of the subject. A step has been initiated by Mr. Levett, of King Edward's School, Birmingham, which will do very much towards bringing about more unanimity. He proposes that a teachers' association should be formed for taking the matter in hand; and all mathematical teachers having the interests of their profession and the success of their work at heart would do well to follow up the suggestion. The objects of the association are recorded in their circular as follows—

- (1)—To collect and distribute information as to the prevailing methods of instruction in geometry practised in this and other countries, and to ascertain whether the desire for change is general.
- (2)—To use its influence to induce examining bodies to frame their questions in geometry without reference to any particular text-book.
- (3)—To stamp with its approval some text-book already published, or to bring out a new one under its own auspices.

2. Reduce nine inches and nine-tenths to the decimal of a mile; and find the value of  $\cdot 0625$  of 1 ton 2 cwt. 3 qrs. 12 lbs.

3. A sells goods to B for £115 19s. 2d., and gains 10 per cent. on the price he originally paid for them. B sells the same goods again, and loses 10 per cent. on the price at which he bought them. At what price did A buy the goods, and at what price did B sell them?

4. What annual income will be produced by £13,000 invested in a  $3\frac{1}{2}$  per cent. stock at 91; and by the same sum invested in a 4 per cent. stock at 96?

5. Extract the square root of 10,074,538,384; and find the value of  $\frac{\sqrt{2}-1}{\sqrt{2}+1}$  to four places of decimals.

Prove that no square number can end with one of the digits 2, 3, 7, 8.

## "TAKING PLACES."—PART II.

[Continued from page 149.]

BY ASCOTT R. HOPE,

*Author of "Book About Boys," "Book About Dominies," "Stories of School Life," &c., &c.*



HE plan of taking places is far more congenial to boys than that of giving marks for answers, both because a certain amount of play is given to their natural love of motion by the former, and because it produces more visible and immediate, and therefore, to the juvenile mind, more satisfactory results. I have said also that it is more suitable for the best style of teaching younger boys, as interfering less with a master's energy and giving more scope for the apparently intuitive tact by which he proves himself the presiding genius of the field of battle, swiftly moving his battalions, adroitly changing his front, keenly picking out the weak points in the enemy's line, and retreating for the moment or returning to the attack again and again, till he have smitten stupidity hip and thigh. I would now point out a way by which taking places may be made of great use in teaching such subjects as Latin Grammar. Even those teachers who approve of this way of arousing emulation do not seem to me often to turn it to the best advantage.

Supposing that your boys have learned *Amo* off by heart, a painful labour from which I am not sanguine that any contrivance will ever be lighted upon to relieve them, you will next be desirous to fix it in their minds with as few tears and stripes as possible; you will ask them questions here and there to test their mastery of the different tenses, and so forth. By all means go on doing so till you have persuaded them that this verb means something and is not merely a linguistic instrument of torture. Then sit down, hold your tongue as far as possible, and invite your boys to do the questioning instead of yourself. Let the bottom boy challenge any one to give him any part of the verb he likes; if the challenged is successful, let him in his turn assail some one above him. You will find that a new interest has been suddenly awakened in the subject. *Amo* has proved himself capable of joining in a game; he is not such a bad fellow after all; there is some fun to be got out of him; so you will see the little brains going to work for the pleasure of puzzling their fellows, curly heads will be rubbed in careful thought, somewhat dirty paws will be eagerly stretched out in sign of knowledge burning to be exhibited. And now avaunt, ye Bœotian shades! The spell is broken. In all her brightness appears the divine Minerva, no longer unwilling.

Having sat as umpire at a game of this sort, till your watchful eye sees that it is no longer kept up with profit, you will arise like a giant refreshed and once more assume the direction of affairs. You should now change the game. Tell the boys that you will ask a question, that you will pause a due space, so that every one may have time to get ready the answer, that you will then name a boy, and that if the boy immediately below can give the answer before him he shall go up. These "first outs" are a source of the greatest possible excitement and



interest to boys. If you ask a question in one part of a class the chances are that three-fourths of the boys think that it is no business of theirs and are not particularly concerned in casting about for the answer. But if you ask the question, and leave it uncertain who is to answer, and have it understood that when he is named the answer may be taken out of his mouth by the boy immediately below him if he be not sharp, then the whole class will be almost forced to think over the question, and thus you have a result which perhaps not forests of birch rods or piles of impositions could bring about—a boy made to use his faculties. I say the whole class, because I have never met a boy who refused to be stimulated by this plan of examination.

By carefully working this plan, by graduating the difficulty of your questions, by noticing the time which it seems desirable to give for the production of the answer, by being smart yourself, and encouraging the boys to be smart, by keeping up the excitement and at the same time preventing it from running into riot, and by calling presence of mind and common sense to your aid to obviate any abuses which may be apt to attend this kind of teaching, you will find that before long you have brought even the sort of boy who is called stupid to be quite familiar with *Amo* and to recognize any part of it with as much promptitude as he strikes the perch which has taken his bait. Stupid boys! It is our masters who are so stupid.

Of course I would teach in this way only those grammatical forms which a boy must learn before he can do anything else, and the learning of which constitutes perhaps the greatest drudgery of education. As for the stereotyped rules which form the staple of so many grammar lessons, I would leave them alone for a time. Don't bother yourself and your boys by teaching them rules and names. Don't ask them how to form such and such a tense, but, after once making them learn the tenses, in the same spirit as you have a tooth taken out, ask them what is the English of *regebamus*, and what is the Latin for "we have been ruled," and how many times *regere* occurs in this verb, and so forth. Ask them, too, what is the Latin for "having loved," and how you would translate "a she-donkey may have been loved;" pretend that a right answer is wrong, or a wrong answer right, and see if they will find you out; play tricks on their understanding, amuse them, make them scream with laughter if you can, anything so long as you keep them out of that dull, gorged vacancy of mind which is the Nemesis of young grammarians.

Laugh! Is this not heresy? Have we not arranged that education is a process of the utmost solemnity—that Minerva is a sober if not a sour goddess, and that her disciples must at all times stand in her courts with bowed heads and tearful eyes? They are fools who say that education is a development of nature; we will not develop nature, we will not even accept the assistance of nature in ramming down our boluses of instruction; this nature must not come interfering with our toils, for which it might chance to take the credit. Press it down, put our iron jackets and handcuffs and tight shoes upon it, and then we can in some comfort proceed with our educational manipulation. If

some stunted and deformed minds be the result, are there not others which have burst our bonds and grown so tall and strong that we can point to them with pride and boast of the success of our training? Oh, much-enduring brotherhood of dominies, when are we to learn that we can do nothing worth doing in the way of education, if nature be unwilling? If we could but learn to follow nature and not to drag her—by the tail haply—how much easier would be our work! Nay, there are secrets undreamt of in our educational philosophies by which the very recoil of a boyish mind from study might be turned to good account.

I grant you this, that in many, if not in most of the middle-class schools of England, you could not venture upon raising a laugh without danger to the discipline. The power of their masters is such a frail thing that it cannot come in contact with a healthy, able-bodied joke and be unharmed. The only hope of such rulers is the keeping up of a monotonous, stupid quiet in their dominions, for they know that a laugh or a bustle would be the signal of rebellion. It is only where the government is strong that the people can be free. By all means let us have strong rulers, then, for it must be a miserable journey on the path of education, if we are not to be allowed to look at a dandelion by the wayside for fear of stumbling.

Touching on discipline I am reminded of another use to which the plan of changing places may be applied, viz., the dealing with those smaller offences against scholastic police regulations which so much vex the souls of the dominie tribe. For instance, a schoolmaster is constantly obliged to be sending forth *fulminicula* against naughty prattlers who will talk in school in spite of all he can do to command silence and gain attention. Do you wish to be relieved from the labour of disposing of such cases, except in the very rare event of an appeal to your imperial judgment seat? Simply ordain that if any boy says one single word without the due formality of standing up and addressing himself to you, the boy next below, or, in case of neglect on his part, the next again, shall without any legal sentence or ceremony, further than perhaps a grin or chuckle, go above the offender. If you establish this law there will be little danger to the good humour of any member of the community, and at the same time you will find that before long a boy will give forth illegal utterances in school as rarely as he will allow himself to be stumped out at cricket.

These few hints may, I hope, be as useful to others as I have found them. And now there is only one other thing which I will notice in connection with "taking places."

Some have said that this produces jealousy, angriness, and quarrels among boys. I have another tale to tell. I could tell of a sturdy little Protestant who, contrary to the opinion of his class and its Pope, gave up his place because he thought that "it wasn't quite fair." I could tell of eager rivals vying to be allowed to renounce their own interests on some nice point of honour. I could tell of friends unwilling to take an advantage of each other which was justly theirs. If we make use of emulation let us take pains that it be honest and noble emulation. In life these boys will afterwards find themselves engaged in a similar

contest, where, moreover, the marks are not always to the deserving, nor the high places to the diligent, and it will be well if we can teach them at school to struggle without greed or trickery, or unkindness. Some teachers there are, indeed, who would teach that in the life of boy and man alike the taking of places is to be the chief aim. But let them be anathema maranatha by all good schoolmasters, who will rather be earnest to preach the doctrine that it is possible to gain cartloads of what in this world pass for prizes and honours, and withal to lose what even in this world is of infinitely higher value.

### HOW WE TEACH HISTORY.\*

**I**N order to know *what man is*, we ought to know *what man has been*. This dictum gathers in force and importance as ages roll on, its reality admits of no dispute; yet although so universally admitted, virtually it is entirely ignored. If this were not the case, we should see greater attention paid to the study of history, for what science can be of more real service in the battle of life? Pursuing the argument of the talented writer whose words we have just quoted, he tells us that "we find ourselves on a stage on which many acts have been acted before us, and when we are suddenly called upon to act our own part—to *know the part which we have to act ourselves, we ought to know the character of those whose places we take*—we naturally look back to the scenes on which the curtain has fallen, for we believe that there ought to be *one thought pervading the whole drama of mankind*. And here history steps in and gives us the thread which connects the present with the past."† Many scenes indeed are lost, and others are known to us in fragments only. By possessing a thorough knowledge of history, rulers and diplomatists are able to provide against the various contingencies that may arise to the detriment of their native land. When we take into consideration the vast historical library we possess, the multitude of books issued periodically from the press upon this subject, how sad it is to think that the majority of these publications are useless, rendered so by the wilful caprice or inability of the authors. Speaking more particularly of the text-books placed in the hands of students, it is really astounding the manner by which fictions are exhibited as likelihoods, and probabilities are transmuted in facts.

By far the greatest number of our children—at least till very lately—imbibed the idea that the Britons were a nation of savages much worse than the cannibals of modern times, that we are altogether indebted to Rome for christianizing the country, that Harold II., William I., &c., were very bad men to usurp the throne, that the executions during the reign of "Bloody Queen Mary" were so great as to be incomparable

\* The New School History of England, by the author of *Annals of England*. W. E. F. Parker. Old English History for Children, by E. A. Freeman. Macmillan. Queen Bertha and Her Times, by P. Hudson. Rivingtons.

† Max Müller, *Oxford Essays*, p. 5, 1856.

with those of "Good Queen Bess," that half a hundred equally fictitious statements are as true as that our present Queen is Victoria. Granted that in many cases our information is meagre and doubtful, that is no reason why authors should draw upon their imaginations, and insert in their text-books such things as they *think* might have happened. History to be useful must be authentic. Supposing its utility to be enhanced by the repetitions which occur seemingly according to certain well-defined laws, no benefit can be derived except our knowledge be that of fact instead of fiction. Dean Alford\* seems to take this view when he says, "History, to those who read it aright, is the God of truth working out truth. As the ages pass on, one great principle after another by the help of men, or independently of men, or even in spite of men, finds its way to the front, struggles for a time, is borne down and depressed, but breaks out again, and ultimately gains the day." That this is true, may be seen by studying history for a moment. Let us take for example that much belauded attribute which it is said every Englishman possesses—freedom. We find it now a reality, then under a cloud; again it breaks forth, only to retire longer than before, but ultimately the clouds are burst asunder, and with irresistible might it gains the day. For were not the Saxons free, but what could be worse than the feudal slavery of the Normans, binding and degrading till Magna Charta broke the bonds, only to be used again till the Puritans dashed them into a thousand fragments, never to be united? We cannot but admit then that the teaching of history ought to be conducted by the most approved modern methods, and it is for the purpose of calling our readers' attention to the issue of several new and better publications, that we move out of our ordinary course to mention them here. These books are a step—and a step only—in the right direction. They are not mere compilations of other larger works, but each author has shown an amount of original research not frequently met with in publications of this class. Our remarks will be confined more especially to the portion of the works treating of early English, or rather Saxon History. In the preface of the larger and more pretentious work, we are told that in drawing up the book, original authorities, as nearly as possible contemporary, have been employed, and that instead of devoting the latter and major portion of the book to modern history, some attempt at uniformity has been made, so that each century has a proportionate amount of space allotted to the discussion of the various incidents which occurred therein. There is one drawback to this book, and it is one which a historian should endeavour to suppress, that is partiality. Toryism is the ruling political bias disfiguring an otherwise good production. But turning to the one entitled "Old English History," we are glad to see the talented author of "The Norman Conquest" utilising and extending his talents in this direction. We heartily agree with a writer in an early number of this periodical,† that it is far preferable to teach history by the means of a lighter kind of writing, than the dull, heavy, condensed mass, crammed with dates, full to repletion with terrible words, not one tithe of which

\* Contemporary Rev. vol. ix., p. 60.

† P. 5, vol. i.

the boy student can recollect or understand, and which ultimately make him disgusted at the mere mention of history. In a great measure the neglect of history has been caused from the want of good books. Mr. Freeman gives us authentic history, interspersed with the beautiful legendary tales of olden times. He says: "These tales ought to be known, if only because they have usurped the place of true history. They ought also in many cases to be known, sometimes on account of their real beauty, sometimes as excellent studies for the comparative mythologist."\*

It may be doubtful, but we fancy it would happen, that if history were better taught we should hear of fewer cases of barbarous vandalism, old monuments, ruins, &c., would be looked upon with a sort of respect, and would not be wilfully destroyed by ignorant rustics, or malicious gentlemen. How often the plough or the spade turns up some old pottery, or coins, which if valued, would find their way into a local museum, to be inspected with delight by all scientific men, but now are thrown aside as possessing no value. A very useful essay upon old English words and names is given. But the best feature in each of these works, is the attempt to give facts instead of fables, and although not in every case successful, still, considering the difficulties the authors must have had to contend against, the researches after truth they must have made, we cannot but congratulate them upon their work. The following extracts, whilst giving some idea of the literary abilities of each author, will serve to show the manner in which all the principal incidents have been treated. The mass of young students are totally ignorant of the fact that Christianity existed in this country prior to the arrival of Augustine and his train of monks. Their books have not informed them that an endeavour was made by the English bishops to come to some understanding with Augustine, neither are the results of the conference indicated, or if mention is made of it, no real information is given; and so with other subjects. The above-mentioned incident being one often mooted in controversy, has been selected in preference to any other for extracts. Then we find Mr. Freeman states:†

"Now Augustine thought it would be right to try and make friends with the Welsh Bishops, that they might join together in preaching to those of the English who were still heathens. So he went, with the help of King Æthelberht, to a place on the Severn in Gloucestershire, where he had a meeting with the Welsh Bishops, under a great oak, which was therefore called Augustine's Oak, and from which the place is called Aust still. \* \* But unhappily they did not agree, because, though the Welsh were Christians, they did not do in everything exactly as Augustine had been used to do at Rome. \* \* No doubt there were faults on both sides, as neither would yield to the other in anything. \* \* Then it is said, but Boeda speaks as if he were not quite certain of it, that Augustine spoke thus to them; 'If ye will not join me in preaching the way of life to the English, ye shall suffer the vengeance of death at their hands.' This was thought to be a prophecy, because, some years afterwards (in 607), when Augustine was dead, Æthelfrith, the heathen King of the Northumbrians, came and fought with the Welsh by Caerleon on the Dee, and when he saw the monks praying, he said: 'If these men pray to their God that we may be beaten, it is all one as if they were fighting against us.' So he smote the monks and slew them."

W. E. F. does not think this circumstance worthy of lengthy notice, he therefore concisely states that:

\* Preface.

† P. 48, 49.

"The Archbishop (Augustine) journeyed towards the Severn, and held conference with the British Bishops, as he wished them to join him in the conversion of the Saxons; but this they declined to do, and he parted from them in anger."

We find, too, immediately after this meagre account, a novel and fabulous statement relating to the conversion of Edwin of Northumbria. Would it not have been better to tell this "legend" as a legend, and not insert it without word or comment as a "fact?"

In neither of the above extracts do we get the *cause* of the non-agreement between the two ecclesiastical bodies, but on turning to Mr. Hudson's\* work, we find therein a lengthy explanation taken from Dr. Hook's work, enlightening us as to the cause of the failure: "Both parties," he says, "were aware that the object of the conference was to decide whether the two branches of the Holy Catholic Church now existing in the land should unite under one head—that head being the Archbishop of Canterbury. \* \* \* \*

"Although the first conference had been lamentably unsuccessful, a second was determined on. There is a curious story connected with it, related by Bede, and repeated by many historians. Seven British Bishops held a preliminary meeting, to consult together as to how Augustine and his proposals should be treated; and some of them bitterly complained of his conduct on the former occasion."

The conduct here referred to was excessive pride and haughtiness, making it seem that the British bishops were compelled to submit, and that he had a perfect right to demand, or rather command. The British saw nothing but equality, and refused to be treated in this condescending manner.

"These Bishops had met at the abode of a hermit whom they wished to consult, as he had great reputation for piety and discretion. The hermit advised them to accept Augustine for their chief ruler, if he were a man of God. The Bishops asked: 'How are we to know that he is a man of God?' The hermit replied: 'If Augustine be meek and lowly of heart, he bears the yoke of Christ, and the yoke of Christ is all that he will desire to put upon you; but if he is proud and haughty, you may be sure that he is not a man of God.'"

The Bishops allowed Augustine to arrive first at the place of meeting, determined to test the great man's humility, for the hermit had said: "If Augustine rises up to meet you, then accede to his proposals; but if he treat you with contempt, have nothing to do with him." The Archbishop did not rise, nor treat these prelates and scholars but as inferiors summoned into the presence of a superior. Naturally all his blandishments, arguments, and exhortations failed to effect his purpose, serving only to exasperate instead of conciliate. Then finding all in vain, he grew angry, and uttered those remarkable words before quoted. It is but just to state that Mr. Hudson's work is not written as a textbook on history, but for a good prize book. Would that there were many such, dealing with other periods of our history! then perhaps the candidates at examinations, instead of biting their pens, and trying to think, would really be able to give some answer to the proposed questions. Far better to read such books as this, and gain some knowledge, than to cram up a mass of dates without really knowing why each date was

\* Pp. 225-6.

learn't, or perhaps just knowing the incident, and nothing more. Certainly the publication of such books as *Old English History*, inaugurates a new era in this class of literature, for never again can the term uninteresting be applied to this portion of our history.

## MIDDLE CLASS SCHOOLS. AS THEY ARE—AS THEY SHOULD BE.

A PAPER READ AT THE BRITISH ASSOCIATION.



IN the endeavour to make this paper of some practical service, and a means of communicating my own views upon a subject of such great importance, I may have unwittingly trespassed upon the expressed opinions of others. Nothing has been further from my intention than this, for although the literature relating to the subject is vast, much of it is useless, so that my aim is to give the results of practical experience, and the conclusions derived from a long and careful study of the question. I think too much stress is frequently laid upon the excellence of certain continental systems in preference to our own, and many erudite treatises have been published ostensibly for the purpose of imparting knowledge, and unbiassedly contrasting the different systems, really for the lauding of the one over the other, pressing the adoption of the one whilst eradicating in its entirety the other. A little reflection will show that these conclusions are absurd. A foreign system of education may aptly be likened to a rare exotic which flourishes to a certain extent in an hothouse in its adopted country, but even there requiring constant and unremitting care and attention. Instead of an exotic brought from foreign shores, never thoroughly developing its gorgeous oriental foliage in the beauty of maturity, we require the hardy English plant, full of native vigour, like the acorn springing up into the stalwart sapling, pushing aside all rank and noisome weeds, and soon arriving at that perfection which excites the delight and admiration of all beholders. Yes, our system of education must be of native growth, adapted to native circumstances and insular peculiarities, adapted also to any and every expansion which may ultimately be found needful, not restricted, confined, or curtailed into narrow limits so that future enlargement is impossible. It must be able to grow with the growth of education; as the latter advances, the system must change and expand, encircling within its limits everything that tends to be useful.

It is not difficult to define what education should be, or what it should do; the great difficulty consists in the originating a system calculated to produce the required results. If it were possible to perfect education every man in the country, nay, in the universe, would know how to perform those duties allotted to his special station in life, so that, whilst benefiting himself, he would also benefit, and not injure to the slightest extent any of his fellow-men. Man is necessary to man, and were the world in that ideal state of Arcadian happiness, all would know this and act accordingly. A more extensive knowledge of politi-

cal economy should teach us this, and it is incumbent upon those who possess this knowledge to diffuse it among those who possess it not. The population of the world should, like some huge and complicated machine, perform certain evolutions with unerring accuracy, every part harmoniously contributing its share of the whole. Unfortunately this ideal cannot be attained by finite men, yet we can aim more and more towards the point of perfection.

It is to the lack of education that we owe desolating and devastating wars, retarding the progress and welfare of the world to an incalculable extent. Instead of sanguinary combats, the differences of nations would be decided by arbitration; the same plan would also be adopted to settle the differences between masters and men. It is to the lack of education that we owe excessive pauperism, criminality, disease and death. For with a better system there would not be that peculiar dislike of moving from one place to another; thus, the superabundant population of one part would colonize some other spot destitute of inhabitants, or offering increased facilities for earning a livelihood. Further, disease would be met by curative processes in its earliest stages, or prevented to a great extent by better methods of ventilation and other sanitary precautions, whilst care would be taken to avoid excesses tending to bring on zymotic disease. If, then, an extension of education is calculated to bring about such grand results, it is high time that the nation awoke out of its lethargic slumber to take active measures to supersede the present unsatisfactory system by a better. If we consider the provision made for the education of the middle classes in this country, we shall find it sadly deficient both in quantity and quality. I do not mean to infer that we have too few so-called schools. Unfortunately experience has taught us that free-trade in this commodity of cheap schools is not a desideratum but a great evil. The schools which come under the term *Middle-Class* may be conveniently divided into two kinds, viz., Grammar and Commercial or Private Schools. The Endowed Schools Bill of last year is calculated when in full operation to work a wonderful change for the better in the peculiarities of the former, enhancing their latent utility to an almost unlimited extent. I shall therefore confine my remarks almost wholly to the consideration of the Commercial or Private Schools. Ominous sign, at least for them, imperial legislation has of late made havoc amongst various rotten educational systems, and we may gather from the signs of the times that other systems will be dealt with in their turn. Who are the people to be educated in these schools? What kind of education do these people require? And are these schools able to give what is required? These are a few questions of vital importance standing prominently forth amongst a mass of others nearly or quite as important, and presenting themselves to our notice for elucidation.

It may be said that almost the whole of our professional and business men receive in these schools the greater part, and by far the most important part, of their education, for it is upon this that the superstructure has to be raised. If, then, the foundation is not secure, what can we expect of the building? The knowledge gained during school-



life should be adapted for at least two purposes, the first to form the basis of a special education needed for the particular profession or business occupying the future life of the student, and secondly the basis upon which to form such opinions, &c., as may be required to assist in making home life full of pleasure and happiness.

I have no wish to enter upon a discussion of the subjects it is desirable to teach various professional men; my object is to show that under existing circumstances, no matter what these subjects may be, it is extremely doubtful whether our schools are in a position to teach them, at least in such a manner as they deserve. No doubt but much is taught, and taught successfully, but that is no reason why a better system giving better results should not be instituted. However, I think that many hundreds of the smaller schools are utterly useless, and the sooner they are swept off the face of the land the better. The income of these schools is not sufficient to maintain a staff of thoroughly efficient masters, and the result is that either inefficient masters are employed, or one or two gentlemen undertake to teach every science under the sun. I am not in the least exaggerating, for I never heard of a principal in one of these schools refusing a pupil because he was incapable of teaching any specified subject. The only argument in favour of small schools is that a greater amount of individual attention may be paid to the pupils than in a larger one.

This is scarcely true, except in cases where a very high premium is paid, and an efficient staff of masters employed. It is impossible that one man can efficiently overlook a number of pupils of different attainments. There are many other failing points in this class of schools, among which I may mention the want of proof that the principal is really capable of performing what he undertakes to do. Another defect is, our inability to compare the standard of one school with that of another, or to gain any knowledge of the standard of the whole country. The present system of examination is useless as regards information upon this point; and, in fact, the whole system of examination is based upon entirely wrong principles. It fosters a system of cram which should always be avoided. The backward boys are neglected in order to push on those who may be more advanced, so that the latter may by some means be got through with credit. I cannot now enter upon the discussion of all its failings, but would say that, in the hands of some men, the system is made to give a fictitious standard to a school. An advertisement is persistently flaunted in the face of the public, stating that "all boys sent up passed;" but what percentage does this *all* bear to the number of boys in the school? This is the mistake. Instead of a voluntary few, the whole school should be examined. But again, the examinations themselves are perfectly ridiculous. I must except from this statement those of the Universities. Look at the papers set by the College of Preceptors. Some 200 or 250 marks are given for each paper, and 40 or 50 gained by the boy passes him in the first class. Is not this saying—Answer the first, or easy part, and all will be well? Of course, the public do not know that *two questions* answered out of *ten* given will enable a boy to satisfy the craving appetite of the examiner. But these are only a few from many points of failure.

It will be necessary that some means be devised by which we may obtain authentic information respecting the standard of education throughout the country ; and this can only be done by central supervision and examination. I do not hesitate to say, that every school in the United Kingdom, whether primary or secondary, should undergo periodical examination, preferably by Government ; if not, by some other central body equally unbiased. If by the former, a blue-book should be issued annually, containing a summary of the results of the year's examinations, with such observations here and there as may be found necessary. A tabulated summary of every school might be given, so that the public might be conversant with such schools as are good and such as are bad. It has been found necessary for Parliament to interfere with, and superintend the progress of elementary education, which cannot with any truth be said to be of greater importance than secondary education. The education of the commercial and mechanical classes is indubitably worthy of as great attention as that of the working and agricultural classes. This system of central examination should be compulsory, and take place in the school, and consist of both *vivâ voce* and written questions. The time of the examination should not be specified. It is a great mistake to appoint a particular day ; for great are the preparations made to receive the examiner and to gain his good graces, thereby paving the way for a good report. It is next door to the impossible to decide upon the general tone of a school when the day for the examination is known beforehand. The boys are in their best dress, sharpened up to stricter discipline by promises of reward or punishment, crammed to the last moment with lists of dates and formulæ ; and in some instances baser means are resorted to for the above object. Let the inspector go at any time. Perhaps at one time he may just make a call if he happen to pass in that direction, and notice the state of the school when he enters ; then, at some other date, go for the purpose of testing the knowledge of the boys. He could do this better by means of general questions than by means of written papers. I would also raise my voice against the institution of any number of schools. The rule, or better still, the law, ought to be very stringent upon this point, and insist upon the gentleman desiring to originate another institution, showing that he was competent to carry out the modern requirements.

That some recognised diploma should be given to middle-class masters and assistants is imperative ; and I would suggest that agitation be commenced and carried on till the object be effected. I have lately been communicating with a large number of gentlemen upon this and other subjects in connection with secondary education, and the result of the whole of the replies that I have hitherto received is favourable to immediate action. Thus convinced that the views I hold in this matter are correct, I issued invitations to some few middle-class principals and assistants, in order that we might meet together and discuss the various questions now mooted. Owing to the long vacation, this meeting has not yet been held, but probably within the next few days will be held, and the best steps to be taken decided upon, in order to thoroughly

investigate the question, and seek out means by which a more satisfactory state of things may be attained. C. H. W. B.

NOTE.—Owing to the exigencies of space, only a general idea of the paper is given. It may be stated, that before the public see this a preliminary meeting will have been held, of which particulars may be had from the Editor of this Journal.

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## CORRESPONDENCE.

[*Although responsible for the insertion of the following communications, the Editor does not necessarily agree with all that is stated therein. Nevertheless he does not feel justified in simply inserting such notices as agree with his own opinion, but wishes to give fairly and without bias the opinions held by different members of the profession. A vast amount of good must ensue from the consideration of various questions intimately connected with the well-being of all engaged in tuition. The Editor, therefore, will be glad to receive any communication upon subjects connected with scholastic affairs, and if of sufficient importance will insert them in future issues of the Journal.*]

## SCHOLASTIC ASSOCIATION.

*To the Editor of the "Quarterly Journal of Education."*

SIR,—The last number of the *Journal* is one of such surpassing interest and excellence that one is almost bewildered as to which subject most demands his attention. There is one, however, which, to my mind, is at present of such paramount importance to private teachers, that all others sink into insignificance in comparison, and that subject is *self-preservation*.

I am also drawn to this subject by your kind insertion of my former letter, by your comments thereon, and by the hints you throw out respecting organisation among us, in p. 159.

It ought not to be concealed that we are approaching another crisis of our history. Before the Revised Code it must have been observed by every reflecting teacher, that the Government system was gradually paving the way for the extinction of private schools. When the Code came into operation there was one universal groan from Government teachers; but, although the injuries inflicted on us previously were infinitely greater, I am not aware that a single complaint, either singly or by combination, was brought to the notice of Government.

If Inspectors were unanimous on anything, it was this—that the children for whom Government grants never were intended were being educated by means of them, and that those for whom they *were* intended were leaving school utterly uneducated. Then came the Code, which by compelling a uniform attention to all the children alike, instead of a class or two at the top of the school, forced many of the better classes into private schools, and gave us a new lease of existence. The Government regulations as to the classes of children to be admitted into these schools are not worth a straw. Neither teachers nor committees pay the least attention to them. If they can get pupils at sixpence a-week, instead of a penny, twopence or threepence, they will never disturb their consciences as to whether they are the children of paupers or gentlemen. I could give many specimens to prove this. In our active town the sons of Town Commissioners in good circumstances never go anywhere else than to Government schools. One such, with an income of five hundred a year, has raised eight sons, every one of whom was entirely educated at the British school.\* When people of this sort have no more self-respect, is it right that Government should minister to their selfishness? I feel a strong indisposition to pay taxes under such circumstances.

\* [This is a good proof of the efficiency of the school, and also a proof that the rich have hitherto received the benefits of the grant, while the poor have sought aid in vain.—ED.]

But we are again threatened. How will the new educational measure affect us? By carrying out the spirit of the Revised Code, and compelling a further accession to private schools, or by operating as before the Code, and again slowly but surely paving the way for our destruction? Or again, will the country stop where it is? Having once entered on the system of rate-supported schools, will not Parliament now turn its attention to the establishment of similar schools for the middle classes, against which it would be impossible for us to compete, where half the income is supplied by the State? Such a contingency is enough to summon us to immediate action, and to induce us to combine, so that we may, in our corporate capacity, bring our opinions and interests not only before our respective representatives but before Government itself. It cannot be said we have no influence. When three-fourths of the intelligent middle classes are still educated in our schools, we can hardly consider ourselves a cipher, or a section of the community whose interests dare be altogether disregarded. But we are a *rope of sand*. We are without unity, without organisation, without any of those appliances by which our opinions or interests can be brought prominently before Parliament or the nation, and are thus left entirely at the mercy of legislators, and our interests are made the sport of successive Governments who simply ignore our existence, not because they would willingly or gratuitously injure us, but simply because we have no means of effectually reminding them of our existence, or of convincing them that we have interests to protect and principles to regard as well as other members of the community. But I fear I have dwelt too long on this aspect of the subject, and must turn to THE REMEDY, on which I will be as brief as possible.

Let there be formed a "Middle Class Teachers' Association," or "Private Teachers' Association," with Committee, Secretary and Treasurer, and of course a President, or Chairman of Committee. The secretary, treasurer and president must be Londoners, and the committee chiefly so, but having such a sprinkling of country members as shall, in the event of absence, not affect the *quorum* or impede the business of the committee. The first thing would be to call a meeting of all interested in London, who would nominate the above officials. These, once appointed, would determine the annual subscription of members, and the remuneration to be paid to the secretary and treasurer. This once done, there is nothing to hinder immediate action; and the committee might, in a short time, be in a position to watch the course of educational legislation, to bring our opinions prominently and influentially forward, and to compel some regard to our interests. One of the first subjects demanding attention is certainly the qualifications of teachers, and the present *impossibility* of private teachers qualifying for Government schools. But I am anticipating the discussion of the Committee, and must close. Surely I have said enough to convince the proprietors of private schools that it is high time to combine, and that none who are not altogether unconcerned as to their future welfare or the welfare of their children, can look with indifference on the present course of educational legislation.

I remain, Sir, Yours most respectfully,

SOUTH STAFFORDSHIRE, 26th July, 1870.

DAVID CLARK.

#### A SCHOLASTIC SOCIETY.\*

To the Editor of the "*Quarterly Journal of Education*."

SIR,—I have just been reading your "suggestion" in the last number of the *Journal*, and cannot help wishing that you had stated it more at length.

\* [Steps have been taken with a view to form a society. Gentlemen desiring further information are requested to apply to the Editor.—ED.]

You advocate the formation of a Society of the Principals of Middle-Class Schools. If you will allow me a little space in the *Journal*, I will give you a few thoughts which have occurred to me on the subject.

(1.) I think it would never do to admit *any* principals into the Society. If a Society of the Masters in Grammar Schools were being formed, we might include in it all who offered themselves, as all have University Degrees; you might also receive into a Society of Teachers of Elementary Schools all Masters of National and British Schools, as the majority of them have a Government Certificate. But it is well-known that many of the principals of middle-class schools are lamentably incompetent for the position they hold. No doubt some can put letters to the end of their names, signifying that they have degrees—but how were they obtained? Perhaps this advertisement from the *Athenæum* may enlighten us a little on the subject:—

“Degrees,—M.A., Ph.D., &c., in *absentia* or *presentia*.—Qualified Gentlemen desirous of proceeding to Degrees in Arts, Law, Theology, Medicine, &c., receive Official Instruction and Advice by writing to \* \* \* \* \* N.B.—Only the applications of Authors, and the decidedly Qualified Candidates, will be replied to.”

Now if they are to be decidedly qualified candidates, why do they not submit their qualifications to the decision of some English University? I have not given the address of the gentleman to whom application must be made, as I don't think you would like your *Journal* to be the means of making known a way of obtaining a degree in any unfair way. Why do not those who possess degrees fairly earned at an English University put after their names some means by which the public may be enabled to distinguish *their* M.A., &c., from a similar “handle” obtained (bought perhaps) in the way above referred to.

Neither, I think, should such letters as F.R.G.S., M.S.A., &c., at the end of a name be accepted as a guarantee of competency as teachers. To be good *teachers* men must have not only natural aptitude, but also have that aptitude brought out and improved by cultivation. How can we expect men who have been drapers, grocers, &c., for eight, ten, or more years, to be fitted for the instruction of youth? Government has interfered in connection with grammar (endowed) schools, and also with elementary ones—and I (one among many) shall be glad when they look into middle-class schools. Could they not give certificates to those teachers whom they find to be fully qualified, so that the public might distinguish good from worthless teachers, just as we can tell a properly qualified medical practitioner from a quack! I would suggest, however, until the Government take action in the matter that a society be formed of principals of private schools who can give proof of competency, and let none in future be admitted into it who cannot fully satisfy the society that they are in every way qualified to be schoolmasters.

Let the society have examinations for the schools conducted by its members; let *all* the pupils be regularly examined; let the examination papers be published with the proportion of marks obtained by each pupil in each subject.

This would be far better as a test of efficiency than the Local Examinations of the Oxford and Cambridge Universities, or those of the College of Preceptors. To these latter, a few of the best boys only are sent up, while the others are in many cases I fear sadly neglected in order to give such attention to the few as will ensure their passing. Good teachers would not object to such a test being applied to their schools, as it could not fail to be of great advantage to them.

In connection with the Society I would also suggest that there should be an examination for Assistant Masters—unless some of the examinations of

the University of London be taken as a sign of competency. It would be a waste of both time and space to stop to speak of the inefficiency of many at present employed in private schools. If the Society have an examination let it be by means of printed papers, *viva-voce* questions, and let the candidate give lessons to classes in the presence of the examiners. In the certificates given to assistants let the maximum number of marks it was possible for them to get, and the number they succeeded in obtaining, be stated. These examinations having been instituted, let the members of the society only employ in their schools certificated assistants, and where practicable employ a master for each subject. In this way they would find the efficiency of their schools raised much higher than they can expect it to be under the present system.

I also think the Society should have a journal (a monthly at least) in which there should be, besides articles on educational subjects generally—

- (a) List of Principals who have joined, or retired from, the Society since the publication of the last *Journal*.
- (β) Examiners' reports of schools examined during the past month. This and the previous would be of great service to parents wishing to send their children to school.
- (γ) Copies of examination papers set to Assistant Masters with a list of those who have passed.
- (δ) Hints, notes, solutions, &c., for the benefit of those assistants preparing for the Society's examinations, or who are reading for a Degree at the Universities of London or Dublin.
- (ε) Advertisements of members of the Society and Certificated Assistants to be inserted *gratis*, or at a nominal charge.
  - (1.) Schools to be transferred, or wanted.
  - (2.) Assistants wanted, or want situations.

In this way purchasers and vendors of schools would save the agents; but especially would it be a favour to assistants, to whom it is a burden to have to pay five per cent. on their first year's salary to the agent through whom they get the appointment.

Would it not be well if the members of the Society would pledge each other not to have any dealings with Scholastic Agents in any way, but only to advertise their wants in the *Journal*?

I think some such plan would answer well, but I should like to see the opinions of others on the subject.

Yours, &c., θ, Lond. Univ.

### MUSIC IN ELEMENTARY SCHOOLS.

*To the Editor of the "Quarterly Journal of Education."*

IT is now just a year since it was announced that the Committee of Council on Education had admitted the Tonic Solfa Notation to an equality with the established mode. In the year previous, when the ordinary notation was exclusively used, only one school is mentioned as obtaining a grant for music. Apart from the time necessary for tuition, it was not anticipated that much would be done in the first year by Tonic Solfa teachers, because there is a natural timidity about leading the way in a new examination, and because Tonic Solfa singing, like all subjects for which no grant could be obtained, had been very much neglected in the schools. Under these circumstances of disadvantage, it is gratifying that seven teachers have communicated to Mr. Curwen the fact of their having obtained the grant, all of them within the last three months. Probably there are others who have not written to him. The examination includes writing down the notes of music heard, singing a tune at sight from the black board, following extempore,

pointing on the "modulator" or picture of the scale, and singing a prepared piece of music as a test of voice-training and taste. Tonic Solfa pupils all over the country are taking up the matter with great interest, and are raising a fund for supplying each of the fourteen thousand government teachers with all necessary information. The number of teachers who announce their intention of trying for the grant next year is large.

L. CURWEN.

EXTRACT :

Dr. Morell writes, "As regards the suggestion in your last issue, I like it much. I am fully aware of the deficiencies of English Middle Class and Private Schools, especially in their want of uniformity of method. I think a congress of masters, etc., will do much good. If I am in England, I shall be happy to attend, and give my experiences in France and Germany. There is a great future before the Education movement. The progress of primary must push up secondary schools, and we must hope to attain something like the Prussian and German standard of excellence."

Offers of assistance and support have been received also from many other gentlemen, among whom may be mentioned the names of T. Hughes, M.P. ; I. N. Lockyer, F.R.S. ; R. Wormell, M.A. ; etc., etc,

NOTES ON SHAKSPEARE'S PLAY, "THE TWELFTH NIGHT."

[Continued from page 172.]

Enter MALVOLIO.

115. MAL. 'Cosiers' Catches.' Cobbler's Catches. A *catch* is a song.

116. SIR TO. 'Sneck up.' *Sneck*, in some parts of England, is the name given to a door-latch, hence the appropriateness of the word, since Sir Toby wished Malvolio to hold his noise. An equivalent in our day is, though vulgar, *shut up*.

117. „ 'Rub your chain.' Stewards anciently wore a chain round the neck. The custom is as old as the Pharaohs, one of whom put a chain round the neck of Joseph when he made him governor over Egypt.

118. MAR. 'Into a *nayword*.' A *byword*. *Nayword* is obsolete.

119. SIR TO. 'Possess us.' Inform us.

120. MAR. 'Kind of a *Puritan*.' The Puritans were a religious sect who pretended to adhere strictly to the laws of the Bible, especially to the precepts of the *Old Testament*. They affected to be more righteous than their neighbours, upon whom they looked with pity, if not with scorn and contempt. Their worship was of the simplest kind, any building being thought good enough to assemble in, and any dress suitable enough to preach in. They utterly despised and contemned all orders and degrees in the priestly office, counting a carman, if only he had a fair gift of utterance and could quote well from Moses and the prophets, as able an expounder of the Divine Law as the most learned divine. This sect appears to have arisen in Queen Mary's reign. They took an active part in troubling the Stuart Kings, and it was through them eventually that the Stuart dynasty came to a close. In

contradistinction to the followers of Charles I., who were called Royalists, or Cavaliers, the Puritans were called Roundheads, or Parliamentarians. For a favourable description of the Puritans, see Macaulay's Essays on Milton and Hampden, and for a satire upon them see Butler's Hudibras.

121. MAR. 'An *affected* ass.' An *affected* ass. *Affected*, i.e., unreal, unnatural.
122. " 'By great *swarths*.' *Swarths* are the rows of grass left by a mower. 'Now called *swaths*.'
123. SIR TO. '*Penthesilea*.' Queen of the Amazons.
124. " 'She's a *beagle*.' A beagle is a small, heavily built hound, used chiefly for hunting hares.
125. " 'Call me *cut*.' The term *cut* was one of contempt, abbreviated, as Stevens thinks, from *curtail*, a horse whose tail had been docked. Hence the frequent opposition, in old comic writers, of *cut* and *longtail*. (Chambers.)

#### SCENE IV.

Enter DUKE, VIOLA, CURIO, &c.

126. DUKE. 'Some *favour*.' Some *countenance*. In some parts of England *favour* is used for *likeness to—resemblance*. A child is said to *favour*, i.e., to be like, or to resemble, its *father* or *mother*.
- " 'Knitters in the sun.' Those who spin or weave in the open air, a common practice with the lacemakers in the Midland Counties.
128. E. " 'Weave their thread with bones.' Lacemakers.
129. " 'Do use.' Are accustomed. *Use* is used with this sense in 'As You Like it.' Act. II., Scene 3.
130. " 'Silly sooth.' Simple truth. Neither *silly* nor *sooth* had, in Shakspeare's time, the bad construction we now give to them.
131. " 'Sovereign cruelty.' Viola calls her 'Fair cruelty.' The Duke considers her the sovereign—that is, the queen, or the chief—in the domain of cruelty.
132. " 'Surfeit, cloyment, and revolt.' *Surfeit* means *fulness*; *Cloyment* means *gorged, stuffed*. *Cloyment* is not now used, though a most expressive word. *Revolt*, as the appetite doth at nauseous compounds.
133. " 'To men may owe.' *Owe* means *own, possess*. See note 81.
134. " 'Bide no *denay*.' Bide no *denial*. *Denay* is obsolete.

#### ACT III.—SCENE I.

Enter VIOLA and CLOWN.

135. CLO. 'A cheveril glove.' A kid glove. Cheveril, from French, *cheverreau*. The point of the comparison here lies in the



fact of a kid glove being pliable, or yielding, as is a sentence in the mouth of a witty person.

136. „ ‘*Prove a reason.*’ *Give a reason.*
137. „ ‘*Pilchards to herrings.*’ Pilchards are a fish not quite so large as, but very much resembling, a herring. They are found in great abundance on the coast of Devon and Cornwall.
138. VIO. ‘*I saw thee late.*’ I saw thee *lately*. See note 13.
139. CLO. ‘*Your wisdom.*’ Meaning Viola. In like manner, when speaking to the Sovereign, we say, ‘*Your Majesty*,’ and to a Judge, ‘*Your Honour*.’ The clown here, though, is speaking sarcastically, and not respectfully as in the instances above given.
140. „ ‘*Commodity of hair.*’ Jupiter or Jove was supposed by the Romans to preside over all the affairs of men; but that he should be a dealer in *hair* is rather a stretch of his godlike offices for us mortals. *Commodity*—Latin, *commoditas*—originally meant *accommodation*. Now it means *goods, merchandise*.
141. „ ‘*Pandarus of Phrygia.*’ Pandarus was the uncle of Cressida, with whom Troilus fell in love; but he had no means of gaining access to her except through the instrumentality of Pandarus, who, at the entreaty of Troilus, undertook to bring her to him. See the Play of ‘*Troilus and Cressida*.’
142. „ ‘*Out of my welkin.*’ Past my comprehension. See note 110.
143. VIO. ‘*Like the haggard.*’ A *haggard* is a wild hawk, or one not well trained for *hawking*. German, *hager*, to snatch.

Enter SIR TOBY BELCH and SIR ANDREW AGUECHEEK.

144. SIR A. ‘*Dieu vous garde, monsieur.*’ God keep you, sir.
145. VIO. ‘*Et vous aussi, votre serviteur.*’ And you also, your servant.
146. „ ‘*The list of my voyage.*’ As far as I am bound for.

Enter OLIVIA and MARIA.

147. OLI. ‘*Hear you to solicit.*’ We do not now place *to* before a verb governed by *hear*. See note 49.
148. „ ‘*Your receiving.*’ Quick perception.
149. „ ‘*A cyprus.*’ Thin, transparent black stuff. This word is now corrupted into *crape*.
150. VIO. ‘*Not a grise.*’ Not a step. Grise, from French *grez.*; Latin *gressus*, a step. Now obsolete.
151. OLI. ‘*The lion than the wolf.*’ This is very finely expressed. The *lion* is used to denote the inherent aristocracy; the *wolf* the common people. Shakspeare thinks it is better to fall into the hands of the rich and noble than into the hands of the poor and ignoble.
152. „ ‘*Love's night is noon.*’ The most hidden feelings of a lover

are as clearly perceived as the light at noontide, is what she means to say.

153. „ 'Maugre.' In spite of. French, *malgré*.

154. VIO. 'Nor never none.' *Nor ever one*, is the true sense of this. Here, where three negatives come together, the two last make an affirmative; so that, according to the *present* laws of negatives, this phrase forms the sense it was intended to have, though unwittingly. Shakspeare meant, nor ever one, when he said, 'nor never none.' See note 62.

SCENE II.

Enter Sir TOBY BELCHER, Sir ANDREW AGUECHEEK, and FAB.

155. Sir A. 'Slight.' A corruption of 'odds light,' a petty, meaningless oath in use at that day, as was also 'sblood,' &c.

156. FAB. 'Legitimate.' Legitimately, lawfully. Sometimes an adjective is put for an adverb in conversation. This, however, ought to be guarded against, as it is improper. *Legitimate*, here, qualifies the verb *prove*, and therefore the adverb *legitimately*, and not the adjective, should have been used.

157. „ 'Dormouse valour.' Sleeping valour. The dormouse sleeps through the winter. Here is an instance of a noun being turned into an adjective. This is quite in accordance with the genus of our language. We say—gold dust, steel blade, mouse trap, horse collar, cart rope, &c., &c.

158. Sir A. 'Lief be a Brownist.' The Brownists were a religious sect, so called from their founder, Mr. Robert Brown.

159. Sir A. 'Be curst. *Curst* is probably used instead of our word, *curt*, i.e., snappish, peevish, which meanings were given to the word *curst* in Shakspeare's time.

160. Sir To. 'If thou *thou'st* him some thrice.' *Thou* was formerly used either when speaking *familiarly* to a friend, or *insultingly* to an enemy.

161. „ 'Bed of Ware.' This was a famous large bed in the town of Ware, in Hertfordshire, which held forty persons.

162. „ 'The cubiculo.' Latin, *cubiculum*, a chamber. Probably it was a place where these two knights transacted business.

163. „ 'Youngest wren of nine.' Maria was an exceedingly short person; hence she is compared to a wren, about the smallest of our English birds. A wren often lays nine or more eggs. See note 69.

Enter MARIA.

164. MAR. 'Renegado.' One who has swerved from the true faith, or changed his tenets of belief. From Spanish, *renegado*.

165. „ 'I have dogged.' I have followed. The verb *dogged* comes from the practice of a dog, which, having once scented an object it is in pursuit of, determinedly, or *doggedly*, follows the scent in spite of all obstacles.

166. „ ‘Augmentation of the Indies.’ An allusion, as Stevens supposes, to a map engraved for Linschoten’s *voyages*, an English translation of which was published in 1598. This map is multilinear in the extreme, and is the first in which the Eastern islands are included. (Chambers.)

SCENE III. Enter SEBASTIAN and ANTONIO.

167. SEB. ‘*Uncurrent pay.*’ *Thanks* are no coin. The man who is paid for his services in thanks cannot pay them in turn.
168. ANT. ‘*Count his galleys.*’ *His* is here used for the possessive case. It is an obsolete form. We have an instance of this idiom in the English Prayer-book—‘For Jesus Christ *his* sake.’ Shakspeare here uses the word to fill up the line, as well as to form the possessive case.
169. SEB. ‘*Why I your purse?*’ Why (should) I (take) your purse? This is an instance, among innumerable others, of the elliptical manner of expression made use of by Shakspeare in common conversation throughout his plays.

SCENE IV.—Enter OLIVIA and MARIA.

170. MAR. ‘*Were best have.*’ *Had* best have. See note 53.
171. OLI. ‘*If sad and merry madness equal be.*’ Very fine. Shakspeare here intimates that there are two sorts or species of madness; one springs from overmuch spirit, the other from too little. This is borne out by facts.
172. MAL. ‘*Please one and please all.*’ Mr. Staunton publishes a ballad of the reign of Elizabeth, the burden of which is, ‘Please one and please all.’ (Chambers.)
173. OLI. ‘*Midsummer madness.*’ The height of madness.
174. MAL. ‘*I have limed her.*’ I have ensnared her. Lime, from Saxon, *geliman*, is a viscous substance put on trees to catch birds with, sometimes called *birdlime*.

Re-enter MARIA, SIR TO. BELCH and FABIAN.

175. Sir To. ‘*My bawcock.*’ A slang term of endearment, equal to fine fellow, or jolly cock. From French, *beau* and *coq*. Now obsolete.
176. „ ‘*Cherry pit.*’ A play among boys; now played with marbles, anciently with cherry stones.
177. „ ‘*Foul colliers.*’ Colliers were accounted great cheats.

Enter SIR AND. AGUECHEEK.

178. „ ‘*Nor admire not.*’ See note 62.
179. „ ‘*Bum-bailie.*’ A man who is put into a house to look after the goods, when an execution is taken out against the occupier.
180. „ ‘*A clodpole.*’ A clod-hopper, a ploughman, a country bumpkin.
181. „ ‘*Like cockatrices.*’ Serpents, which are reported to have eyes so terribly fascinating that animals on which they fix their

gaze, are filled with terror, and so become an easy prey to them. They are said to proceed from a cock's egg.

Enter OLIVIA and VIOLA.

182. OLI. '*Unchary*.' Literally. This word is obsolete.  
 183. Sir T. 'Dismount thy *tuck*. Draw thy sword. *Tuck*, from Gaelic, *tuca*, a rapier.  
 184. „ '*Be yare*.' Be ready. *Yare*, from Saxon, *gearw*.  
 185. „ '*Unhacked rapier*.' That is, a sword that has not been in battle, as distinguished from the sword of the general who makes a man a knight on the battlefield.  
 186. „ '*Incensement*.' Indignation. French, *incensement*.  
 187. VIO. 'Some conduct.' A guard to conduct her home.  
 188. „ '*That quirk*.' That sort, nature, disposition.  
 189. FAB. '*Mortal arbitrement*.' To such a degree that nothing short of a mortal combat can settle it. *Arbitrement* means *decision*. Latin, *arbitror*.  
 190. FAB. 'Fatal opposite.' Fatal adversary.

Re-enter SIR TO. with SIR AND.

191. SIR TO. '*Virago*.' Literally, a bold or warlike woman. From Latin, *vir*, and *ago*. Here it means a hotblooded, savage person.  
 192. „ '*The stuck-in*.' *Stocatta*, an Italian term in fencing.  
 193. „ '*He pays you*.' Conquers or kills you. This phrase is used in the same sense in 'As You Like It,' Act I.

Enter FABIAN and VIOLA.

194. „ 'As horribly conceited.' As much afraid. *Conceited*, from Latin, *conceptum*, a conception; hence, an *idea*, and with *horrible*, a *horrible idea* = a *fear*, a *dread*.

Enter ANTONIO.

195. „ 'An undertaker.' One who goes about redressing other people's grievances, a Don Quixote.

Enter *Officers*.

196. 1st OFF. '*Favour well*.' *Appearance* well. See note 145.  
 197. ANT. '*O'erflourished*.' Ornamented. This speech is exceedingly sarcastic on good-looking sinners. Four more pithy and expressive lines cannot be found in the whole of Shakspeare.

#### ACT IV.—SCENE I.

Enter SEBASTIAN and CLOWN.

198. CLO. '*Nor I am not*.' See note 62.  
 199. „ '*Nor your name is not*.' See note 62.  
 200. „ '*Nor this is not my nose neither*.' This is sheer nonsense, or 'folly,' as Sebastian calls it. Probably Shakspeare is here ridiculing the rule that 'two negatives make an

affirmative,' which rule, it would appear from another part of this play, was coming into force about this time. He, however, could not ridicule it out of existence, because it was founded lawfully and in sound reason.

201. CLO. '*Prove a cockney.*' A 'cockney' is commonly said to be a person born within the sound of Bow bells. It literally means an ignorant citizen. Probably it is derived from the Latin, *coquina*, a cook.

202. SIR TO. '*Malapert.*' Saucy, bold. French, *mal* and *pert*.

Enter OLIVIA.

203. SEB. '*Lethe steep.*' *Lethe* was supposed to be a river in the lower world, whence the spirits drank, and obtained forgetfulness of the past.

SCENE II.—Enter SIR TO. and MARIA.

204. CLO. '*Bonos dies.*' Meant to be Latin for *good-day*, though literally it is 'good days.'

205. " '*Hyperbolical fiend.*' Diabolical, *i.e.*, devilish fiend.

206. " '*As barricadoes.*' From Spanish, *barricado*, a barricade.

207. " '*Lustrous as ebony.*' Bright, shining, or reflecting light as ebony, and therefore not at all.

208. " '*Egyptians in their fog.*' An allusion to the plague of darkness. See Exodus x. 22.

209. " '*Opinion of Pythagoras.*' It was the opinion of Pythagoras, that the souls of the dead entered into other animals, human beings included. This is the doctrine of the transmigration of souls.

210. " '*I am for all waters.*' Ready for anything. Here is an allusion to the word *water*, as applied by jewellers to the lustre of a precious stone.

211. MAL. '*Propertied me.*' Shut me up, taken possession of me.

212. " '*I am shent.*' Reproved. Saxon, *scendan*. Obsolete.

213. " '*The old vice.*' A buffoon character in the old plays, and father of the modern harlequin.

SCENE III.—Enter SEBASTIAN.

214. SEB. '*This credit.*' This account, report, news.

215. " '*All discourse.*' All reason.


216. " '*Her followers.*' Her servants.

Enter OLIVIA and a PRIEST.

217. OLI. '*The chantry.*' An endowed chapel in connection with a monastery, where daily mass is said. French, *chantrerie*.

## CYROPÆDIA, BOOK II.\*

## INTRODUCTORY.

NE word to the student on the plan and way to study this paper. The translation of five paragraphs, or sections, is given first. Then the words are analysed on these five sections. After that, the translation is given along with the analysis, and incorporated therewith. What the student should do, is to draw out for himself a translation of the remaining sections of the chapter, which he will easily be able to do. Difficult forms are explained, and phrases interpreted, and the reasons of the rules are in most instances given. Let him master these thoroughly : and then he will find he has mastered more. I have taken up no more than one chapter ; but this is better than to go over much more ground, and be less particular. The same rules and idioms are constantly recurring in the same author, and even the same words and construction. I have referred pretty often in this paper to Jelf's Greek Grammar, and would advise the student to have it.

## TRANSLATION.

Discoursing on such subjects, they had come as far as the borders of Persia ; and since an eagle, on the right hand, appeared to lead the way, having prayed to the gods and heroes who defend the Persian land propitiously and kindly to dismiss them, they crossed the borders. And after they had crossed, again they prayed the gods who defend the Median land, with a friendly and kind disposition to receive them. And having done so, and embraced each other, according to the custom, the Father went back again into the city, and Cyrus advanced amongst the Medes towards Cyaxares. And after Cyrus had come to Cyaxares, first they embraced each other according to custom, and then Cyaxares asked Cyrus how great an army he was leading ; and Cyrus replied, thirty thousand, who formerly also came to you as wagedrawers : but others also are coming, of those who have never yet gone out from home, who are equals-in-honour. How many are these ? said Cyaxares. 3. The number, said Cyrus, probably may not please you, when you hear it ; but consider this that they who are called equals-in-honour, though few, easily govern the other Persians, who are many. But, said Cyrus, do you need these men really, or do you feel a vain fear, and the enemy are not coming ? Yes they are coming, (*οὐ μὴ δὲ* after negative becomes strong affirmation,) by Jupiter, and they are even many. 4. How is this clear ? said Cyrus. Because, said Cyaxares, many coming from thence, one speaking after one fashion, and another after another, yet all say the same thing in this. We must strive then against these men, said Cyrus. We must, said Cyaxares. Why then, said Cyrus, have you not told me their power, if you know, how great is coming, and what our own again, that knowing the power of both, we may plan in accordance with these things, how we may carry on the war in the best way. Hear me, then, said Cyaxares.

Croesus, the Lydian, is said to be leading ten thousand horsemen ; bucklered men and bowmen, four times ten thousand or more (observe, we have a form exactly equivalent to this Greek comparative and *ἥ*). They say that Artamas, who rules over the greater Phrygia, is leading horsemen up to eight thousand ; and lancers with peltasts, not fewer than forty thousand : and that Aribæus, king of the Cappadocians, is leading horsemen up to six thousand, bowmen and peltasts, not fewer than thirty thousand ; and that the

\* This is the book chosen by the Senate of London University as the Greek subject for Examination, January, 1871.

Arabian, Aragus, is leading horsemen up to ten thousand, and chariots up to one hundred, and a very large number of slingers. As to the Greeks who dwell in Asia, nothing is yet clearly said, if they follow: but those from Phrygia on the Hellespont, they say Gabæus with six thousand horsemen, and peltasts up to twenty thousand, has assembled in the Kaystrian plain. They do not affirm that the Karians, Kilikians, Paphlagonians, though summoned are following. But the Assyrian, who holds Babylon and the rest of Assyria, will, I think, lead horsemen, not fewer than twenty thousand; and chariots, I know well, not less than two hundred; and foot, I know very many: at least that was his wont, whenever he made an irruption thither.

## ANALYSIS.

*διαλεγόμενοι*, discoursing about; pres. part. of *διαλέγομαι*, *λέξομαι*, *λέγμαι*, discourse about; used as deponent, only in mid., as all deponents. Deponents exist only in the mid., and are called mid. or pass. depon. according as 1st aor. has mid. or pass. form. *τοιαῦτα* is acc. pl. of *τοιοῦτος-αὐτη-οὗτο*, such, referring to what immediately precedes, governed by *διαλεγόμενοι*.

*ἀφίκετο*, 3 pl. 2nd aor. of *ἀφικνέομαι*, *ἀφίζομαι*, *ἀρίγμαι*; 2nd aor. *ἀφικόμεν*, I reached, arrive.

*μέχρι τῶν ὁρίων*, up to, as far as; with gen. See Jelf, vol. ii., sec. 509, obs. 2.

*ὁρίων*, gen. pl. of *ὄριον*; *ὁρίου*, limit, but in pl. *ὄρια*, *ὁρίων*, limits, borders; with *τῆς Περσίδος*, in gen. by the country on whose borders they were now. *Περσίδος* *ἰδος*, Persia, ἡ.

*ἐπει δὲ*, and after.

*ἀετὸς δεξιὸς φανείς*, *ἀετὸς-ου-ὸ*, eagle; subj. of verb. *προηγέτο δεξιὸς-ἀ-ὄν*, in agreement with, on right hand; *φανείς*, part. 2nd aor. pass. being seen. *ἐφάνην*, agreeing with subject of verb.

*Προηγέτο*. This word takes *αὐτοῖς* in dat. here; vide Jelf, vol. ii., sec. 518, obs. 3. *ἡγείσθαι*, in sense of precede, lead the way, takes dat.

*προηγέτο*, 3rd sing. imperf. ind. of *ἡγέομαι*, *ἡγήσομαι*, I show the way, precede, deponent, according to what is said above.

*προσευξάμενοι*, 1st aor. part. nom. pl. of *προσεύχομαι*, *εὐξομαι*, pray to; governing *θεοῖς καὶ ἥρωσι*, in dat.; verbs of praying to, take dat. of those to whom address prayer.

*κατέχουσιν*, dat. pl. masc., pres. part. active of *κατέχω*, *έξω*, and *κατασχέσω*, I hold, possess, occupy; agreeing with *θεοῖς καὶ ῥωσι τοῖς Περσίδα γῆν κατέχουσιν*, article and part.=who hold, possess; *Περσίδα* used as an adjective; *γῆν*, acc. of *γῆ*, *γῆς*, land, governed by part.

*πέμπειν*, inf. pres. of *πέμπω*, *πέμψω*, *πέπομφα*, I send, dismiss; [with an acc. of those dismissed.

*σφᾶς* is acc. pl. of *οὗ-ἐπ-ῆ*, 3rd per. pronoun, and reflective in meaning, in Attic Greek. Pl. *σφεῖς*, neut. *σφέα*, *σφᾶν*, *σφίσι*, *σφᾶς*, neut. *σφέα*.

*ἰλεως καὶ εὐμενεῖς*. *Ἰλεως*, acc. pl. masc. of *ἰλεως*, ὁ, ἡ. *ἰλεω-τὸ*, mild, joyful, propitious.

*εὐμενεῖς*, acc. pl. of *εὐμενης*, ὁ, ἡ, *εὐμενες*, το, having a kind disposition, whose mind is well affected towards any one; agreeing with *θεοῖς καὶ ἥρωσι*, in gender and number, and referring to; but acc. be-

fore infinitive, as *σφὰς* is after; observe how translated, as adverb, propitiously and kindly. Vide Jelf, vol. ii. sec. 674, for this construction.

*οὕτω διέβαινον* : *διέβαινον*, 3rd pl. imp. ind. of *διαβαίνω*, *βήσομαι*, *βέβηκα*, I cross, with acc.; verbs of moving along take acc. of thing along which one moves.

*ἔπειδῃ*, when, after; *διέβησαν*, 3rd pl. 1st aor. ind. of above.

*αὐθις*, again. The construction is the same as the one above; *δεχέσθαι* takes the place of *πέμπειν*, and *αὐτοὺς* acc. after inf.

*δέχομαι*, *δέξομαι*, I receive; with acc. of thing received, here persons. *αὐτοὺς*=ipsos: acc. of *αὐτός-ή-ό*, gen. *αὐτοῦ*, *αὐτῆς*, *αὐτοῦ*, &c. But *ταῦτα*, acc. pl. neut. of *οὗτος*, *αὕτη*, *τοῦτο*, gen. *τούτου*, *ταύτης*, *τούτου*, &c., and acc. by the part.

*ποιήσαντες*, 1st aor. part. act. nom. pl. mas. agreeing with *Κῦρος καὶ Πάτηρ*.

*ἀσπασάμενοι*, also 1st aor. part. of *ἀσπάζομαι*, *ασομαι*, *ησπασμαι*, I embrace; deponent.

*ἀλλήλους*, acc. pl. mas. of reciprocal pronoun, gen. pl. *ἀλλήλων*, *ου-αίς-οις*, *ου-ας-α*, its three cases, each other, by verb in acc.

*ὥσπερ ἐκός*, *ἐκός-οτος-το*, fitting, becoming, nom.

*ἀπῆι*, 3rd sing. imp. ind. of *ἀπέιμι*, I go away, imp. *ῆεν*, *ῆεις* or *ῆισθα*, *ῆει*, &c. The father returned again into the city.

*ἐπορεύετο*, 3rd sing. imp. ind. of dep. *πορεύομαι*, *εύσομαι*, I set out, travel; *εἰς Μήδους*, amongst the Medes; *Πρὸς Κυαξάρην* towards Kyaxares, *πρὸς*, and acc. means to there from here.

2. *ἔπειτα δὲ ἤρετο*, κ. τ. λ. *ἔπειτα*, afterwards. *ἤρετο*, 3rd sing. imp. ind. of *ἔρομαι*, and *ἐρομαι*, *ἐρήσομαι*, and *ἐρήσομαι*, I ask, I enquire, takes double acc.

Kyaxares asked Kyros how large an army he was leading; the 2nd acc. may be from *πόσον*, which begins the question, yet the noun is governed by its own verb.

*πόσον*, how great, how large.

*ἄγοι*, optative; after historical tenses. These are imp. aor. and pl. perf.; simple direct question. It implies supposition, and governs *στρατευμας*.

*ἄγω*, *ἄξω*, perf. *ἤγαμαι* 2nd aor. *ἤγαγον*, I lead, bring.

*ὁ δὲ ἔφη*, and he, Kyros, said: *ἔφη*, 3rd sing. imp. of *φημί*, I say; *φημί*, *φῆς*, *φησί*, *φατόν*, *φατόν*, *φαμέν*, *φατέ*, *φασί*; observe accent. Has no reduplication. 2nd sing. *φῆς*, seems from *φαιῖς*, to say, also pretend, assert, allow.

*Τρισμυρίους*, acc. pl. masc. of *τρισμυριοι-αι-α*, thrice ten thousand, by verb *ἄγω*, in reply, *ἄγω*, I lead.

*οἱ καὶ πρόθεν*, κ. τ. λ.; *οἱ*, relative, who also formerly.

*ἑοίτων*, 3rd pl. imp. of *ροιτάω*, *ἴσω*, I go, come frequently.

*πρὸς ὑμᾶς*, to you; *μισθοφοροί*, nom. referring to subject of verb, carrying a wage, wage-bearing.

*ἄλλοι δὲ καὶ*, and others also.

*προσέρχονται*, are coming; 3rd pl. pres. ind. of *ἔρχομαι*, *ἐλεύσομαι*, I come.



- τῶν ὁμοτίμων, of the Homotimoi. Partitive gen. only portion of, not all; Homotimoi were Persian noblemen—we might say peers.
- τῶν οὐδέποτε ἐξελθόντων, who have never gone forth; gen. pl. in agreement with ὁμοτίμων, of 2nd aor. part. of ἐξέρχομαι, go forth.
- πόσοι τινές, how many are these. τινές has accent, as in text; but τίνες interrogative, accent on ί. The word here is ind. pron. accent shows.
3. οὐκ ἂν ὁ ἀριθμὸς σε, κ. τ. λ. ὁ ἀριθμὸς, nom. sing. to εὐφράνειεν, εὐφραίνω, gladden, delight, with acc. of person, σε.
- οὐκ ἂν, not perhaps; and both joined to εὐφράνειεν, modest way of stating. ἀκούσαντα, 1st. aor. part. acc. of ἀκούω, ἀκούσομαι, I hear, learn, agreeing with σε.
- ἀλλὰ, but; ἐκεῖνο, το, accus. of ἐκεῖνος-η-ο, by ἐννόησον. ἐννοῶ, ἦσω, I revolve in mind, animadvertere.
- ὅτι, with ind. because fact spoken of.
- δλίγοι ὄντες, though few, being few.
- οὗτοι οἱ ὁμότιμοι καλούμενοι, those who are called Homotimoi. οὗτος, αὕτη, τοῦτο, this, dem. οἱ . . . . καλούμενοι, usual part, construction, nom. το verb.
- ἐξάδιως ἀρχουσιν, easily govern; ἀρχω, ξω, rule over, command, with gen. verbs of ruling take gen.
- τῶν ἄλλων περσῶν, gen. after verb.
- πολλῶν ὄντων, though, on being many.
- ἀτάρ, but; marks sudden change of subject.
- δίδει τι αὐτῶν, do you need these at all.; δίδει, 2nd sing. pres. ind. of δέομαι; 2nd per. δεῖ, Attic δέει, I want, takes gen.; verb of want takes gen.
- ἢ μάτην φοβήθης; ἢ, or, alternative; μάτην, uselessly, to no purpose.
- φοβήθης, 2nd sing. ind. 1st aor. pass. of φοβέω, ἦσω, 1st aor. pass. φοβήθην, or do you needlessly fear.
- Ναὶ μὰ δία, denying by an oath what Kyros supposed. Yes, by Jupiter, they are coming; strong affirmation of the last clause, or notion. This follows negative.
4. Πῶς τοῦτο σαφές; πῶς puts question, how? σαφές, of σαφής-ὁ-ή, clear, evident, apparent, το nom. ἔστι, supply.
- Ὅτι, because; vide Jelf, vol. ii., sec. 849; ὅτι refers to a demonstrative in former clause.
- πολλοὶ ἥκοντες αὐτόθεν, many coming thence, i.e. from the enemy.
- ἥκοντες, nom. pl. masc. of pres. part. of ἥκω, ἤξω, I come, arrive; agreeing with πολλοί.
- ἄλλος ἄλλου τρόπον, one after one manner, another after another; ἄλλος, nom. as case of πολλοί; this word distributes the πολλοί, and contains them. κατὰ governs ἄλλον τρόπον, not the ways by which they came, but the different accounts of the enemy. Each gave his own story, but all agreed on number being indefinitely great.
- πάντες ταὐτὸ λέγουσιν, all say the very same; ταὐτό=τὸ αὐτό, Attic; λέγουσιν, 3rd pl. of λέγω, λέξω, I say.
- Ἀγωνιστέον μὲν ἄρα ἡμῖν, we must then fight; τρος, as a verbal, carries the inf. It behoves us to, &c. δεῖ ἀγωνίζεσθαι. Vide Jelf, sec. 383.

πρὸς τοὺς ἀνδρας; πρὸς, against; ἀνηρ, ἀνερως, ἀνδρως, masc. acc. by πρὸς.  
τί οὖν, why then.

οὐ καὶ τὴν δύναμιν ἐλεξάς μοι, have you not told to me their force, or, power?

ἐλεξάς, 2nd sing. 1st aor. of λέγω. This aor. expresses command as question; so used with τί οὖν. Vide Jelf, sec. 403, obs. 3rd; takes acc. and dat.

εἰ οἶσθα, if you know; 2nd sing. of οἶδα, οἶσθα, οἶδε.

πόση ἡ προσιοῦσα, how great it is which is approaching. πόση, fem. agreeing with δύναμιν; προσιοῦσα, nom. fem. of προσεῖμι, I go, approach.

καὶ πάλιν τὴν ἡμετέραν, acc. by ἐλεξας; δύναμιν, supply.

ὅπως εἰδότες ἀμφοτέρως; ὅπως, in order that; εἰδότες, part., nom. pl. masc. of εἰδώς-υια-ος, knowing, with acc.; ἀμφοτέρως-α-ον, acc. fem. agreeing with δυναμεις, understood.

βουλευσόμεθα, 1st pl. fut. of βουλεύομαι, εὔσομαι, middle, resolve, think, deliberate.

πρὸς ταῦτα, with relation to these things.

ὅπως=quo modo, how; ἄν, adverb modal, is added to ὅπως, pointing to some condition; ἄν, in some way or other. Vide Jelf, sec. 810.

ἄριστα, best; used adverbially.

ἀγωνιζοίμεθα, 1st per. pl. middle voice, opta., of ἀγωνίζομαι, ἀγωνίσομαι, fight, contend; how we may in some way or other contend.

5. ἵππιας, obj. of ἄγειν, acc. pl. of ἵππευς-έως, horseman.

πελταστάς, acc. pl. of noun of 1st declension;] της-ου, light armed soldier.

πλείους, acc. pl. of πλείων, ὁ-ή, contracted from πλείονες by striking out ν, agreeing with two acc. before ἤ, after comparative, than, and resolved here by same case after, being obj. of same verb. Vide Jelf, sec. 780, obs. 6.

Ἀρτάμαν δὲ τον, κ. τ. λ.

λέγουσιν is the principal verb on which ἄγειν depends.

Ἀρτάμαν . . . τὸν . . . ἄρχοντα, acc. before ἄγειν; τὸν . . . ἄρχοντα gives information about Ἀρτάμαν.

τῆς μεγάλης Φρυγίας; observe use of the positive as comparative; great Phrygia; but as there is another, greater.

λογχοφόρους, acc. pl. after verb.

οὐ μείους τετρακισμυρίων, not less than four times ten thousand.

μικρος, μικροτερος, and μείων, less. The comparative here takes the gen.; this, said to be Attic idiom which seldom made μείων, πλείων, &c., agree with subs. in gender, number, and case. Jelf, vol. ii, sec. 780.

Ἀριβαιον δὲ τὸν τῶν Καππαδοκιῶν βασιλείῃ; observe the position of the governed genitives in this and the former clause.

Βασιλεὺς-έως, Attic, king. The construction of this sentence is the same as the former. They say that Aribaros is leading, &c. And so next succeeding.

καὶ ἄρματα . . . καὶ πᾶμπολύ.

τι χρεῖμα, in acc., chariots up to one hundred, and a very great number of slingers. τι = α; πάμπολύ, adv. very great; χρεῖμα-ατος, is wealth, resources, a quantity, or number.

σφειδονητῶν, gen. pl. of σφειδονητῆς, οὐ, ὅ, a slinger.

τοὺς μέντοι Ἕλληνας, acc. pl. The acc. absolute placed first, as a notion to be kept in view. As to the Greeks, nothing is said distinctly about the Greeks who dwell in Asia, whether they follow.

εἰ ἵπονται; εἰ, whether, if; ἔπομαι, ἔφομαι, I follow; 3rd pl. pres. ind. of dep.

τοὺς δὲ ἀπὸ Φρυγίας τῆς; φασί, is the principal verb; 3rd pl. pr. of φημί, I say.

Γαβαῖον ἔχοντα, that Gabaios with; acc. before inf.; συμβαλεῖν τοὺς δὲ, after ἔχοντα. That Gabaios with those from Phrygia on the Hellespont, will assemble six thousand, &c.

συμβαλεῖν may be fut. or 2nd aor. in form. inf., make it fut.; of συμβάλλω, συμβαλῶ, βέβληκα, 2nd aor. ἔβαλον, collect, assemble.

πεδῖον, ου, τὸ, a plain. Though the Karians and Kilikians, and Paphlagonians are summoned, they do not say that they follow.

Κἄρας δε, &c., acc. before ἐπεσθαι.

παρακληθέντας, acc. pl. 1st aor. part. pass. of καλέω, ἔσω, κέκληκα, κέκλημαι, 1st aor. pass. ἐκλήθην, I convoke, summon; agreeing with each of the nouns in the clause as applying to them.

ὁ δὲ Ἀσσύριος, ὁ ἔχων :

ὁ . . . ἔχων, who holds; observe place of governed noun.

καὶ τὴν ἄλλην Ἀσσυρίαν, and the rest of Assyria; same government.

ἐγὼ μὲν οἶμαι, I indeed think; οἶομαι, οἰήσομαι, I think.

ἰππίας μὲν ἄξει, he will lead; ἄγω, ἄξω, 3rd sing. fut.

ἐλάττους, acc. pl. of ἐλάττων, or ἐλασσων, smaller, less; super. ἐλάχιστος.

The form is contracted from ἐλάττονες, into οες and then ους; δις-μυρίων, gen. by rule above after comparative.

ἄρματα δὲ, acc. pl. by ἄξει.

εὖ οἶδ', I know well, for οἶδα, οἶσθα, οἶδε.

πεζοὺς . . . παμπολλούς, acc. pl. of πεζός, οὐ, ὅ, foot-soldier; used too as adj.

παμπολλοῦ, acc. pl. masc. of παμπόλυς, as simple word.

εἰώθει, 3rd sing. pl. of εἴωθα, I am used or accustomed.

γοῦν=γε οὖν, for example, at least.

ὅποτε δευρ' ἐμβάλλοι; ὅποτε, whenever, with optative after which follows the historical tenses.

δεῦρο, hither.

ἐμβάλλοι, βαλῶ, to make an irruption into. He was used at least, whenever he would make an irruption hither.

6. Σὺ . . . πολεμίους λέγεις . . . ; you say that the enemy's horse are, &c.

πολεμίους, acc. pl. of adj. πολέμιος-α-ον, what belongs to an enemy; agrees with ἰππίας, which acc. before εἶναι. ἔξακισμυρίους, used in pl. only, μυριοι; agreeing with noun in clause.

μυριάδας, acc. pl. of μυριάς, ἀδος, ἡ, the number of ten thousand.

ἄγε δὴ, well then; ἄγε, 2nd per. imp. Literally come then.

τί φῆς, what do you say ; τί interrog. ; φῆς, 2nd sing. pres. ind. of φημι, I say.

πλήθος is acc. sing. neut. before εἶναι.

της δυνάμεως της σῆς, gen. by πλήθος, εος, number ; σῆς, of σός, σή, σόν, thy, thine.

ἔδιν . . . κ. τ. λ. There are, said he, of Medes, horsemen more than, &c.

Μήδων, gen. pl. of Μῆδοι, ὧν ; by ἰππεῖς ; πλείους, nom. pl. agreeing with ἰππεῖς, gen. ; prominent, and so first ; as one people's force is distinguished and contrasted with others.

γίνοιτ' ἂν ; opt. and ἂν, might be ; ὡς ἐπὶ τῆς ἡμετέρας, καὶ ἑξακισμύριοι, as far as depends on our country, or side, at least sixty thousand.

ἐπὶ has, in general, the meaning of dependence with the gen. ; Kyaxares means to say that Media will do her utmost. There may be, perhaps, which is the force of ἂν and opt. ; as far as our country is concerned, can go, at least ; καὶ ἂν=καὶ ἂν, or καὶ εἰαν, even if ; Scapula says, saltem, at least.

Ἀρμενίων δ', gen. in first place ; of Armenians on the other hand.

τῶν ὁμόρων, neighbours ; gen. pl. of ὁμορος, ου, ὁ-ή, bordering on, agrees with Ἀρμενίων.

ἡμῖν παρέσονται, 3rd pl. fut. ind. of παρῆμι, ἐσομαι, I am present ; with dat. ; verbs of going towards, meeting, &c., take dat.

Λέγεις σύ . . . κ. τ. λ. μείον ἢ τρίτον μέρος τοῦ τῶν πολεμίων ἰππικοῦ.

μέρος, εος, το, a part. acc. sing. after εἶναι ; and with gen. τοῦ.

ἰππικοῦ ; supply στρατεύματος ; or τὸ ἰππικόν, cavalry, when alone.

τῶν πολεμίων, gen. pl. by ἰππικοῦ μείον ἢ τρίτον μέρος, in acc. The object or comparison may be noted by the disjunctive ἢ, or by the gen.

Jelf, sec. 780.

πεζούς, acc. before εἶναι, and ἀμφὶ τοὺς ἡμίσεις, acc. after ; but ἀμφὶ governs in its clause, its own case.

ἡμίσεις, acc. pl. ; contracted from ἡμισεας, by the Attic writers ; of ἡμισυς, ἡμίσεια, ἡμίση a half.

7. Τί οὖν, what then.

νομίζεις, 2nd per. sing. of νομίζω, νομίσω, νενόμικα, think, consider ; governs εἶναι.

ὀλίγους stands after this inf., that there are few of the Persians.

Περσῶν, gen. pl. of Περσαι, ὧν ; οὗς, relative pl. of ὅς, ἧς, ὅ ; near correlative, Περσῶν ; after ἀγειν, agrees in gender and number, takes case from verb of clause ; σέ, acc. before ; same as subject of φῆς.

Ἄλλ' εἰ ; ἀλλ', well, whether there be need of men to us, and whether not ; observe εἰ, whether, followed by εἴτε.

προσδεῖ is impersonal ; takes gen. and dat., 1st of thing, 2nd to whom. αὐτίς, hereafter.

συμβουλευσόμεθα, 1st. pl. fut. mid. of συμβουλεύω-εύσω, I advise ; mid. deliberate.

λέξον, 2nd sing. 1st aor. imp. with acc. and dat. ; verbs of saying take acc. of tale, &c., or thing spoken of.

τὴν μάχην. This has ἐκάστων in gen. after it, of each severally.

ἤτις, ind. pron. whoever, whatever, what kind it is.

Σχεδόν . . . πάντων; nearly all adverbs of nearness or distance take gen. and σχεδόν is one of them.

ἡ αὐτή, the same.

τοιούτων τῶν ὁπλῶν ὄντων. Their arms being such, gen. abs.

ἀκροβολίζεσθαι ἀνάγκη ἐστί; ἀκροβολίζομαι, I throw a dart, inf. mid.; to define the kind of necessity. See Jelf, vol. ii. sec. 669.

8. Οὐκοῦν ἐν τούτῳ. In this, then; supply warfare.

τῶν πλείονων ἡ νίκη, the victory belongs to, is the property of, is in the possession of, the greater number; where the gen. is governed by ἐστί; gen. of possession. See Jelf, vol. ii. sec. 521.

πολὺ γὰρ ἂν θάπτον οἱ ὀλίγοι; for much sooner would the few. πολυ, adv.; θάπτον, adv. sooner; οἱ ὀλίγοι, nom. pl. mas. few. §

ὑπὸ τῶν πολλῶν, by the many; ὑπὸ, under, takes gen. dat. and acc. Latin sub.

τιτρώσκόμενοι ἀναλωθείσαν, be hurt and slain; resolution of part. and § principal verb. τιτρώσκομαι, mid. part. pres. of τιτρώσκω.

τρώσω, τέτρωμαι, I wound, hurt.

ἀναλωθείσαν, 3rd pl. 1st. aor. opt. pass. of ἀναλίσκω, ἀναλώσω, ἀνήλωκα, destroy; opt. aor. 1st pass., ἀναλωθείην-είης, η; εἶητον, εἶήτην, εἶημεν, εἶητε, εἶεν.

ἢ οἱ πολλοὶ ὑπὸ, κ. τ. λ. than, repeats the same construction.

Εἰ οὖν οὕτως ἔχει, if then it has itself so; if it be so; ἔχει, impersonal. τί ἂν ἄλλο . . . κρείττον, what other thing better; τις . . . εὐροι, could any one find; τι, inter.; τις, ind. pron. nom. to verb.

εὐροι, 3rd sing. 2nd aor. opt. of εὐρίσκω, εὐρήσω, εὐρήκα, 2nd aor. εὕρον, find, invent.

ἢ πέμπειν, than to send. καὶ ἅμα, and at once.

διδάσκειν, inform; inf. pres. of διδάσκω, διδάξω, δεδίδαχα, teach, inform, takes double acc.

εἰ τι πείσονται; πείσονται, 3rd pl. fut. ind. of πάσχω, πείσομαι, 2nd perf. πέπονθα; 2nd aor. ἐπαθον, I suffer; εἰ τι, observe accent of τι on εἰ; τι, anything.

τὸ δεινόν, calamity; the terrible thing. δεινός, ἡ, ὃν; ἥξει, shall reach; come; 3rd sing. fut. of ἤκω, ἥξω, I come.

Ἀλλὰ τοῦτο μὲν; κ. τ. λ.; but know this well.

ἴσθι, 2nd per. imp. of οἶδα, οἶσθα, οἶδε, imp. ἴσθι, ἴστω; ἴστων, or ἴστων, ἴστε, ἴστωσαν, I know.

δοῦ' εἰ πάντες, κ. τ. λ., not if all the Persians should have come.

ἔλθοιεν, is 3rd pl. 2nd aor. of ἔρχομαι, ἐλεύσομαι, I come; 2nd aor. ἦλθον, opt. ἔλθοιμι, οἰς, οἱ.

πλήθει γὰρ οὐχ . . . κ. τ. λ.; not at least in number would they surpass the enemy.

ὑπερβαλοίμεθα, 2 aor. opt. of ὑπερβάλλω, βαλῶ, in mid. is with intransitive sense with acc.

πλήθει is the instrumental dat. Comparatives and such words as mark that by which one thing excels another, are put in the dat. "By number" surpass the enemy.

REV. J. S. SMITH, B.A.

To be continued.

## EDUCATIONAL RECORD.

SINCE the issue of our last number, two important documents have been published, viz., the *ELEMENTARY EDUCATION BILL* and the annual *BLUE BOOK* on Elementary Education. This latter may some day prove of great interest to antiquarians, but at present it is eclipsed by the grandeur of the former. One more scene has to be enacted before the Bill is completed, and one which is looked for with interest. The new minutes of the Council. When will they be published? What alterations will they contain? How will they deal with non-certificated teachers? These and many other questions arise which cannot be answered. With regard to the latter, some provision ought to be made by which the interests of existing non-certificated teachers may not be overlooked. Could not the Committee of Council give a certificate to all teachers who had been engaged in the profession continuously for ten years, and who were recommended by their managers, and also allow all teachers under thirty years of age to sit for a certificate at a training college, if they had been employed for five years continuously, and were recommended by the managers, or recognise the matriculation examination of the London University, in lieu of the examination for a certificate?

With regard to the new Bill, it may be worked satisfactorily if there be no factious objections. The clauses relating to the religious difficulty are stringent and plain. Clause IX. seems rather to court objection, and would be found much more serviceable if the "cost of such objection" were placed at the door of the objectors. It may perhaps be of interest to our readers to know what the "new Bill" has to do, and this will be best seen by the following extracts from the above-mentioned Blue Book :—

"The estimated population for which an education grant is voted, is calculated to amount to 18,745,378. Now in every thousand of the population there are seventy-five between the ages of three and six, and one hundred and thirty-five between six and twelve. We take those years as representing the infant school age and the juvenile school age approximately fixed by the standards of examination prescribed by the Revised Code. In other words, twenty-one per cent. of the population are of school age (as so defined), and of that proportion a little more than one-third are fitted for infant schools; or, in the case of the class more immediately under consideration, 3,936,513 children are of school age, of whom 1,405,903 are between three and six, and 2,530,610 between six and twelve years of age.

"The answer to our first question, therefore, may be found by contrasting these figures with the comparatively small number (1) of scholars that can be accommodated in our schools (1,824,306), and (2) of scholars who, whatever the amount of their attendance may be, are borne on the registers of these schools (1,569,139), of whom 424,984 are between three and six, 995,036 between six and twelve, and 149,119 upwards of twelve years of age.

"We may mention, in this connection, and as bearing upon the question of the age for compulsory attendance at school proposed in the Education Bill, that in every thousand of the population there are one hundred and eighty-three children between five and twelve; so that the number of children of the poorer classes who might be affected by this provision of the Bill amounted in 1869 to 3,430,335. Passing from the question of the inadequacy of the accommodation now furnished by efficient schools, as to which, within certain limits, however wide, there is now little doubt, we propose to consider, secondly, the character of the instruction given in the annual grant schools, which we assume to be the best of their class. In 1869 the inspectors visited, in England and Wales, 11,404 day schools, or departments of day schools, receiving annual aid, and under the charge of separate teachers. Of these schools or departments 2,383 are for boys only, 1,721 for girls only, in

5,430 boys and girls are instructed together, and 1,870 are mainly attended by infants.

"These schools would hold 1,765,944 scholars, and 1,062,999 (601,344 males and 461,655 females) were in daily average attendance throughout the year. In their instruction were employed 6,108 schoolmasters and 5,644 schoolmistresses either already certificated or passing the probationary period of two years, between the date at which they successfully passed their examination and the issue of their certificates.

"Of the scholars below six years of age for whom grants may be paid without individual examination, 245,300 had attended the number of times (two hundred) qualifying them to bring grants to their schools, and of these 219,970 were present on the day of inspection; of the scholars above six years of age, 843,142 were qualified, but only 696,440 were tendered for examination under the following standards:—

215,507 in Standard I.	90,548 in Standard IV.
175,270 " II.	53,217 " V.
132,001 " III.	29,897 " VI.

"Of the scholars examined in these standards, 430,131 were under, and 266,309 were over ten years of age.

"The total number presented in Standards I.—III. was—

Under ten years of age . . . . .	403,969
Over . . . . .	118,809

"In Standards IV.—VI.

Under ten years of age . . . . .	26,162
Over . . . . .	147,500

"The number who passed without failure in any one of the three subjects of examination was 470,346, of whom there were in Standards I.—III.:

Under ten years of age . . . . .	286,647
Over . . . . .	83,852

"And in Standards IV.—VI.

Under ten years of age . . . . .	14,523
Over . . . . .	85,324

"These figures show that out of every hundred children present, on an average daily 34·5 are disqualified either by age (under six) or by number of attendances (less than two hundred in the year at the same school) for individual examination; and that of the remaining 65·5, the number actually presented for examination was 696,440, and of those who passed without failure in any one of the subjects 470,346. If we confine our attention to the scholars over ten years of age, it further appears that out of every hundred of these older scholars examined only 63·5 passed without failure, although 118,809, or 44·6 of the number, were examined in the three lower standards, while those who passed without failure in the three higher standards were only thirty-two out of the hundred.

"These results cannot be regarded as sufficient, and this is shown even more conclusively by the following considerations.

"In every thousand children between the ages of six and twelve, and therefore qualified by age to be presented for individual examination, there are—

176 between 6 and 7 who ought to be presented in Standard I.

172	"	7	"	8	"	"	"	"	II.
168	"	8	"	9	"	"	"	"	III.
165	"	9	"	10	"	"	"	"	IV.
161	"	10	"	11	"	"	"	"	V.
158	"	11	"	12	"	"	"	"	VI.

"But in 1869, out of every thousand scholars qualified by age and attendance who might have been tendered for individual examination, 174 were not presented at all.

256	"	"	I.	107	were	presented	in	Standard	IV.
208	"	"	II.	63	"	"	"	"	V.
157	"	"	III.	35	"	"	"	"	VI.

"In the same period, moreover, out of every thousand scholars who were actually tendered for examination—

310	were	presented	in	Standard	I.	130	were	presented	in	Standard	IV.
252	"	"	"	II.	76	"	"	"	"	V.	
189	"	"	"	III.	43	"	"	"	"	VI.	

"Such results, we must repeat, cannot be accepted as satisfactory. They show that out of every thousand children in our schools, qualified by age and attendance, only ninety-eight were presented in the two higher standards, in place of three hundred and nineteen who ought to have been prepared to pass such an examination, at the close of what must be to most of them the brief period of their school life. But this contrast between the *normal* and *actual* standard of presentation would be still more unfavourable if we took into account the fact that a considerable number of the scholars examined being upwards of twelve years of age,\* should have passed in previous years in the sixth standard, and ought, therefore, strictly speaking, to be excluded from consideration in estimating the educational work of the year. Giving the schools, however, the benefit of not omitting these older children, it appears that in 1869, of the scholars above ten years of age, brought forward for individual examination—

17,774	were	presented	in	Standard	I.	60,560	were	presented	in	Standard	III.
40,475	"	"	"	II.	67,089	"	"	"	"	IV.	
				And only							

50,679	"	"	"	V.	29,732	"	"	"	"	VI.	
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"That is to say, only 80,411 were examined in the two upper standards, corresponding to their years, (1.) out of 266,309 actual scholars who ought to have been examined in these standards, and (2.) out of a gross number of 807,070 children, who, in respect of age and social position, might have been found in our schools, and made duly qualified to pass these standards."

Surely it will be admitted that there was need for some alteration in the existing system, and we know that the new Bill will not lack the good wishes of every Englishman to make it a decided success.

† SPEECH-DAY AT DULWICH COLLEGE, JUNE 21.—After a long period of lethargy, an Act of Parliament severed all bonds, and allowed this institution to make a step in the right direction. Under the new régime, a new building was erected. To Mr. C. Barry the management was given, and the result is a splendid building "in the northern Italian style of the thirteenth century." It consists of three groups of buildings, connected with covered cloisters, and comprises a great hall, library, lecture theatre, laboratory, &c., and class-room for the accommodation of 600 or 700 boys. The cost has been enormous, but the revenues of the college are not less than £15,000 per annum.

The Prince and Princess of Wales favoured the committee by attending, formally opening the College, and delivering the various prizes. About 150 visitors were honoured by invitations to luncheon with the Prince and Princess.

The Rev. W. Rogers presided, and among those present were Lord Stanhope, the Dean of Westminster, Colonel Shafto Adair, and Mrs. Adair, Sir W. Tite, M.P., Mr. T. Hughes, M.P., &c.

\* 11·59 of the scholars in inspected schools in Great Britain are above twelve years of age.

† This was crowded out of our last number, although in type.



## OUR BOOK-SHELF.\*

*What shall we teach ; or, Physiology in Schools.* 1s. By E. LANKESTER, M.D., F.R.S. Groombridge and Sons, 5, Paternoster Row.

*A School Manual of Health ;* being an Introduction to the Elementary Principles of Physiology. 1s. 6d. By E. LANKESTER, M.D., F.R.S. Groombridge and Sons, 5, Paternoster Row.

WE are glad to see Dr. Lankester taking such decided views in his advocacy of Physiology as an ordinary subject of school routine. It is very difficult sometimes to draw a line of demarcation between the necessary and the supplemental subjects to be taught to children, but there can be no such difficulty in this case. A science which teaches us how to guard against disease and death ought not to require argument after argument to prove the reasonableness of the request that it should be taught to the youth of both sexes. Yet so it is ; such is the apathy of the public that hundreds may die year after year without a murmur being heard ; and the only reason assigned for such a state of things is, that the nation, as a nation, is ignorant of the simple laws which govern health and disease. The sooner this ignorance is dispelled the better. In the first of the above-mentioned works, Dr. Lankester conclusively proves that there is very little difficulty in teaching physiology, provided we can get scholars to be taught. Especially does he advocate the systematic teaching of girls, so that, on becoming mothers, they may have some knowledge of the manner in which they ought to treat their offspring. But besides the prospect of a lower death-rate, and immunity from disease, there is another reason why physiology should be systematically taught, and its laws carried out—viz., that of economy. Our talented author says : “ The suffering inflicted by ignorance for the sake of economy is the most expensive method of procedure. Unnecessary disease and premature death are the most expensive incidents in a civilised community,” and that “ sanitary arrangements are made to contribute to wealth ”—p. 46.

Dr. Lankester is to be commended, not only for proving that physiology should be taught, but also for providing a manual by which it may be taught. It is not easy to write an elementary text-book upon a subject abounding in scientific terms ; but the one before us is a decided success, clearly and succinctly written, so that it may be understood by ordinary pupils. Still this is not enough. Every schoolmaster and schoolmistress ought at once to recognise the responsibility which rests upon them, and introduce into their schools some such text-book as the one before us. Higher praise we cannot give it than we have tested it with our own pupils, and found that they greedily devoured the information it contained. We have nine chapters treating respectively on the constitution of the human body—food—digestion—blood—respiration—the functions of the skin—exercise—the brain, &c.—and the organs of the senses. Excellent advice is given to both men and women regard-

\* [We regret that the Review of Ascott R. Hope's “STORIES OF SCHOOL LIFE,” although in type, is crowded out, and would draw attention to it as an excellent prize book.—ED.]

ing the clothes they should wear ; and we hope the decided remarks of our author may produce reformation. Space admits of but one extract. On page 63 we find, when speaking of the corsette, or stay : " There is no article of dress that the folly of mankind has invented and perpetuated that has so little to be said in its favour as this . . . The effect of this article of dress is to distort the form, and to render it as far as possible the opposite of that most perfect representation of human beauty, the ancient statue of Venus." This book is one of those few we can cordially recommend as being really what it purports to be, a book suited for school use.

C. H. W. B.

*Vegetable Physiology in a Series of Easy Lessons.* By EDWIN LANKESTER, M.D., F.R.S. Cassell, Petter and Galpin. London. 80 pp.

AN excellent little Manual. " Though but an outline," as stated in the preface, it is comprehensive, little of importance being left unnoticed. It is clear and concise, the arrangement being such that the substance of the volume may be easily retained in the memory. It is printed on very good paper, and illustrated with forty-two beautiful diagrams. J. T.

*Barff's Chemistry.* Second Edition. *Orme's Heat.* Messrs. Groombridge and Sons, 5, Paternoster Row.

THE Natural Sciences have made great and rapid progress during the last twenty years. The " general reader " knows this. " Every school-boy " knows it—(what dost thou not know, O much enduring victim of the Examination Mania ?) Everybody knows it. And if the Sciences have made immense advance, so also has an immense advance been made in the character of the books intended to teach science. Let any reader who has not yet reached even to middle life, call to mind the text-books from which he was expected to learn arithmetic and algebra, chemistry and natural philosophy, fifteen, twenty, twenty-five years ago ; and let him compare them with the many excellent manuals on the same subjects in the present day. In the former branches of knowledge his books probably gave him rules without reasons, and five to one if he had been given a sum to work out in arithmetic without being told the rule it came under, he would have been floored ; perhaps, too, (by the way,) his master could not work by any other rule than the rule of thumb ; certainly it is no libel to say, it was a rarer thing in those days than now, to find a teacher at once painstaking and competent. Then, again, chemistry and heat have been brought much more thoroughly under bondage to numbers than formerly, and the text-books take care to let us know it. In the old days who could have looked at the end of every chapter in his book of Descriptive Chemistry for a dozen or twenty numerical examples in illustration of the subject ? Who, further, would have expected the preface to tell him that it was very important that he should make himself master of the processes involved, and of the principles applied in the solution of those examples ? But we may ask, who now-a-days does *not* expect to find his Chemistry Manual provided with such exercises, and who does *not* know that the book will tell him it is essential for a thorough understanding of the subject that he should work the questions out ?

The books before us are intended to give instruction in elementary science in the upper classes of schools, and, to the extent of their profession, are well up to the requirements of the times ; they are evidently written by men who are informed as to the latest discoveries in physics, and who, further, are quite at home in their respective subjects ; and, as a consequence, these manuals are models for precision and clearness of statement. They are all provided with numerous and well-selected examples for practice ; it is not necessary to say which excels the others in the value of its set of exercises. Mr. Barff's certainly is excellent, and Mr. Orme's subject of heat lends itself readily in many instances to calculation, a property of which advantage has been taken to supply an adequate and appropriate collection of examples. These two books form part of a series of Science Manuals issued by Groombridge and Sons, and are highly creditable to the house. Some notices we have seen, commend the books for their cheapness ; they certainly are not dear, the price ranging from three-and-sixpence to four shillings, but in these days of cheap literature of all sorts, we certainly should not have selected the subject of price, as one on which we could pass any special commendation on these works ; they are *not* particularly cheap, and as we have already said, they are not particularly dear. Considering that these books are intended for school use, the binding is much too slight, and will evidently give way with moderately rough usage. The letter-press and illustrations are excellent. M.A.

*Class-Book of Science and Literature.* Illustrated with wood engravings. W. & R. Chambers, London and Edinburgh, 1869. Price 3s. 6d.

The work before us is intended as a Reading-book for senior classes and schools ; and is eminently adapted for that purpose.

What is required in a Reading-book for senior classes ? They can *read* in one sense of that word—are able to pronounce any collection of words that may be presented to them ; but still their knowing how to read may be of very little advantage to them. They may have been accustomed to read amusing narratives, fables, &c., without any reflection, and must be taught to think of what they read, to grasp its meaning, and to store up the knowledge conveyed by it. Some have been accustomed to give their attention to a piece of a page or two in length, but require to be taught to concentrate their thought upon a subject, and to keep it continually fixed upon what they read. The subjects presented to them should be such as will interest as well as instruct, and those treated of in this volume are admirably adapted for this purpose. We have in the first (or Scientific) part, a short treatise on each of the following :—Physics, Physiology of the human body, Zoology, Botany, and Geology. It will be seen at once that these are subjects with which it is also very desirable that senior boys should be acquainted. Their importance at the present day is shown by the fact that most or all of them are given as subjects for examination in our middle-class Examinations. However desirable a knowledge of these subjects is, an acquaintance with one of them seems absolutely necessary—we refer to the Physiology of the human body. Yet how many pass from school into

the world without any (or at best but very little) knowledge of these subjects! One reason of this is, that a boy cannot well take up several subjects at once, and in the short time he is under instruction, he has no opportunity of studying them consecutively; but with a Reading-book like the one before us, into which these subjects are introduced—he may economise his time, gain very valuable information, and form a habit of “giving his mind” to what he reads.

It is also desirable that he should form a correct taste, and be able to appreciate the beauties of our English writers. This volume will enable him to do so. It contains in its second part (Literary) selections from the chief poets and prose writers of our land, from Spenser to Tennyson, and from Hooker to Dickens. Where necessary, as in Spenser, Shakespeare, Milton, notes are given explanatory of words, allusions, &c. At the end is an Index of authors, giving brief notices of their lives and chief works.

It is important that this part also should be studied by our senior scholars. The study of English literature is being revived, as is shown by its being fixed as a subject in which candidates are examined at the University of London, and at the various Middle-class and Civil Service Examinations.

The Poems in the work (74 pages) will be found useful as exercises in Paraphrasing and Analysis. It seems to us that these latter pieces have also been selected with a view to their use as elocutionary exercises. Good readers, or speakers, are few and far between, little or no attention being devoted in the majority of our schools to this branch of education. We can cordially recommend this book as being comprehensive and well calculated to lay a foundation, and to instil in the student a desire to carry his investigations further, and to obtain a more complete knowledge of the various subjects that can be obtained during the period of school-life.

J. T.

*The English Method of teaching to read.* By A. SONNENSCHN, and J. D. MEIKLEJOHN, M.A. Macmillan & Co.

WE presume that there can possibly be but three methods of teaching to read; what is commonly known as the look-and-say method, the phonetic method, and a combination of the two. Moreover it has long been agreed by educationists that the last-mentioned plan is by far the best. But we really are at a loss how to classify the course before us, for while the tenacity with which the learner is kept to the simpler vowel sounds would seem to point to a phonetic system, yet the authors themselves urge the look-and-say method upon the teachers, and would even teach words to be read at sight before the child has learnt a single letter by name. The peculiarity of the method is this:—The child is first taken through the various combinations of the short vowel sounds with one consonant *t*, as *at*, *et*, *it*, &c. In a second lesson a consonant is added *before* the vowel, as *bat*, *bet*, &c.; in a third the *b* is changed for *d*; in a fourth for *f*, and so all possible changes are rung upon these letters. In a second *section* the final *t* is changed for *d*, and all the combinations formed by the various initial vowels as used in the first part

are again gone through. Then comes a third course precisely the same, with the exception that the *final* consonant is changed to *p*, and thus on through a considerable number of sections, no reasonable combination of consonants with the short vowel sounds being omitted. A second *course* goes over the same ground with double consonants, and the third and fourth courses in the same way take the long vowel sounds. Now it seems to us that there are several grave objections to this plan. In the first place, the child is brought into contact with a number of combinations which in practice he will rarely if ever meet with. Such are *vun*, *azz*, &c. Secondly, there is no appeal to the intelligence of the child. An ordinary boy, knowing that *b-a-g* spells *bag*, and *d-o-g* *dog*, ought to see at once that *b-o-g* must spell *bog*. What, then, is the use of so formally and laboriously bringing every possible combination under his notice?

But again this plan brings the child very early into contact with many uncommon words which happen to be formed in a regular manner, to the utter exclusion of common words irregularly formed. Thus in the *first* course we get such words as *kipper*, *dapper*, *quiz*, and *everybody*, while even in the *third* course the authors confess to being obliged to omit such words as *gained* and *fierce*. Finally the books take the child through some 250 pages before they attempt to give him anything in the shape of connected narrative—very little fostering of the intellect or of a love of reading in that. The books exhibit an immense amount of care and mechanical precision, and might be useful with children of very dull intellect or where it was an object to lead them by the very gentlest steps without regard to time, but they certainly are not fitted for schools of an ordinary character.

W. G.

*Allman's Copy-book of Outlines of Geography.* 1s.

*Allman's Copy-book of Outlines of History.* 1s.

*Allman's Parsing Copy-book.* 1s.

*Allman's Copy-book of Grammatical Analysis.* 1s.

It is of great service in remembering anything to write out the substance of what we have read. These books will be found very valuable in fixing the attention of the pupil on what he is required to learn, as well as in affording him an exercise in handwriting. In the history, one page is devoted to a single [reign; in the Geography, two pages are given to each country. The Copy-book on Analysis we particularly commend.]

J. T.

*Series of Scripture Charts.* No. I. Illustrating the Journey of Abraham, with a Compendium of his Life. Size 33 in. by 20. Price 5s.

THE compendium cannot fail to impress on the mind of pupils the chief events of the Patriarch's Life. We fail, however, to see the need of the publication on this plan. A very considerable number of charts would be required in going through the History of the Old Testament, and this would be found both inconvenient and expensive.

J. T.



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“PRINCIPALS” AND “ASSISTANTS.”

By ASCOTT R. HOPE,

*Author of “Stories of School Life,” “Book About Boys,” “My Schoolboy Friends,” &c., &c.*

**I**N my own boyhood there was no title which filled my ears with more awe than that of “master.” At a large public school my compeers were accustomed to look upon the least consequential of our rulers as a being of enormous power and dignity, and I for one never ventured to imagine a pedagogue of any lower order. If we did not entirely agree with those priest-teachers of the east, who very sensibly made it an article of faith that the pupil who blamed his master would after death enter into the body of an ass, we were at least convinced by unanswerable proofs that the most severe penalties in this present life were sure to overtake the despisers of magisterial authority. The thing was impossible. One look from the dominie forbade the very idea of resistance. He was enthroned upon Olympus, and we bent our heads when he nodded or greatly raging sent forth his lightnings ‘from the thick clouds which surrounded his seat. Nought but a convulsion of nature, brought about by appeal to some superior divinity, could preserve the impious from his vengeance.

Such reverence became our childlike years. Even now that we have become men we cannot quite shake it off, and are fain to continue to hold our old masters as more than mortal. But to a mind educated in this belief what a shock is it to find that the greater part of the teachers of English youth have little or none of the divine *numen*, wield no thunderbolts to speak of, dwell humbly in valleys, are disguised as assistant shepherds or boy-keepers at small wages, and too frequently serve as spectacles to excite the mirth rather than the awe of juvenile humanity. Indeed, I lately learned while conversing with a casual boy at a railway station, that the chief amusement of his companions at Dotheboys Hall was to worry the ushers, of which kind of animal three supplies were often furnished in the course of the year to be baited. This young gentleman further gave me some lively descriptions of the manner in which the sport was carried on, and informed me with no little pride,

pardonable enough, that the French victims were generally found to succumb sooner than those of native extraction.

Some century ago a certain quondam usher, who is also known to us as an English classical author, penned this satirical advertisement :—

“Wanted, an usher for an academy. He must be able to read, write, and cut hair, and have had the small-pox.”

It is to be hoped that since then matters have somewhat improved in the scholastic world ; still the juxtaposition, accidental as it may be, of the following advertisements in the *Times*, has always struck me as singularly suggestive :—

“Washing taken in by a respectable person. Moderate charges and punctuality. Address, &c.”

“A young gentleman wishes a situation as assistant in a school. Subjects—Latin, French, Mathematics, thorough English, Drawing, &c. Salary very moderate.”

It used to be so, but looking at the columns of the *Times* of this morning, I find that its managers have made a slight change, let us hope in deference to the spirit of the age, as is the wont of this organ of opinion. Situation-seeking schoolmasters are now suffered to carry on their business at a more befitting distance from the worthy washerwomen. I accept the omen.

When one comes to look into the matter one finds that in the position of the ushers, or assistants, as they are now called, in too many private schools, there is even more room for improvement than in most mundane affairs. These assistants complain bitterly, and not without reason, that they are a feeble and ill-used folk, to whose share fall more of the kicks than of the scholastic halfpence. They would seem to be too often expected to act as policemen, spies, and keepers, rather than as guides, philosophers, and friends to the young gentlemen of Dr. Birch's academy. And in point of comfort and welfare they are not unfrequently worse off than the most refractory of the pupils committed to their charge.

“Twenty boys,” writes Douglas Jerrold concerning the usher, “are handed over to his keeping. Hence he is expected to see them in bed, to have an eye upon them while dressing and washing, to take his meals with them, to never leave the schoolroom, and above all, when the young gentlemen recreate themselves in the playground, or take a walk, or go to church, he is to accompany them, giving his most vigilant attention, his every thought to their doings ; and, indeed, at all times, and in every respect, studying the interest of his employer, as if it were doubly his own. For he must remember that his salary is twenty pounds per annum ! There are positively many footmen who do not get so much.”

This, it must be acknowledged, is rather a hard life, and to the principals—forgive me if, for the sake of definition, I must use this pretentious and somewhat ridiculous appellation—we turn for an explanation, with which they are nowise unprepared. Our assistants, they say, are on the whole a very inferior class of men, of small knowledge

and ability, who enter the profession simply from not being able to find other occupation; are of little use while in it; are always looking out for an opportunity of leaving it, and are much more fond of grumbling than trying to fit themselves for better posts. Inasmuch as Mr. Bull wishes his educationing done cheap, our profits do not allow us to engage a better class of men. Those we have it is impossible to treat with confidence, and not worth while to treat with kindness; we manage as best we can; demand and supply; commercial necessity, and so forth.

If this be the case, the scholastic profession is in a bad state. Indeed, the truth is found to be that, setting apart public schools and a certain order of private schools which are able to recruit their staff from a higher social class, the majority of schools are found to be officered by two orders of men who regard themselves less as holding different ranks in the same service, than as having opposite interests, and forming separate professions.

Principals and assistants are, in fact, at war with each other. If the effects of this unfriendliness were confined to bad schools or bad teachers, we should not so much deplore it, but such is the jealousy and suspicion engendered by this state of feeling, that good schools cannot always get good masters, and it is difficult for a good assistant to find, or having found, to do his duty well in a suitable post. It is an ill wind that blows good to no one, and one result of the evil repute of private schools and of ushers, is, that inferior endowed schools can generally take their pick among the latter at lower salaries than these men would have accepted elsewhere, and that an inferior class of University men are often engaged by the masters of the former, who know that, from what I may be allowed to call the non-commissioned officers of the service, they might get a more useful assistant at a lower salary, but dread the trouble of the search, and the risk of his after all proving unsuitable.

*The Quarterly Journal of Education* has no object more at heart than to bring about peace between these contending bodies, and it is hoped that the present article may serve to this end. The Editor and the writer of this article have attempted to obtain information as to the causes of this disagreement, both from conversation with impartial persons well acquainted with them, and by communications furnished by gentlemen who have been or are assistant masters at private schools. Some of these gentlemen have, in spite of the difficulties they complain of, succeeded in rising to higher positions, and therefore cannot be supposed to have the slightest interest in misrepresentation. The other side has also been heard, and the result of the inquiry, if it may be so called, is to the mind of the writer at least, that, whatever are the deficiencies of the assistant, the principals are on the whole very much to blame.

In treating the question I have thought it best to consider the assistants to be as bad as they are represented by the principals; indeed, there is strong reason to suppose that such members form the majority of the body, and I think it can be shown that their faults are in a great degree the result of their condition and treatment. To begin with, can



you expect to get a very valuable piece of educated humanity at a lower rate than you can buy the services of an artizan?

It is said that men take to teaching by chance, or in want of any better employment, and that they are nearly always anxious to exchange this as soon as possible for some more remunerative and less laborious occupation. 'Tis a pity, but only natural. What prospect is there before the assistant master who is without capital or the advantage of a University degree? It is a wonder to me what becomes of all the ushers—let us use this somewhat unfashionable word to keep in mind the class of schools with which we are at present concerned. Only a small proportion of them can by following the scholastic profession attain to those things which are to most men objects in life—comfort, respectability, a home, a family. The average usher is doomed to perpetual toil, poverty, and celibacy. Is it encouraging to him to think that at sixty he will be living in the house of another man, at his beck and call, under circumstances of peculiar discomfort, the enslaved satrap of an oft recruited pack of troublesome urchins, and passing rich among his less experienced fellows, on a salary of even sixty pounds a-year? Little wonder if he hasten to turn aside into some other path of life, that seems to lead to more fruitful pastures.

The only hope for the usher, who has not money to set up a school of his own, and cannot marry his master's daughter, or in some other way get taken into partnership, is by private study to procure a University degree, or Government certificate, which will open to him some higher rank in the profession. But few teachers have the requisite opportunity for study. Some indeed, to their credit be it mentioned, have succeeded in thus raising their position in spite of the greatest difficulties, but it is not given to every man to tackle Homer and Euclid, with a head aching from the din and worry of the school-room. The usher often sells his whole time and energies for his magnificent stipend.

"From seven in the morning till ten at night," says one, "we had to be at work. Preparation, breakfast, school, dinner, superintendence in the playground, school again, tea, preparation, private teaching to certain boys who paid the principal extra; by this time I for one was fit for nothing but bed. Summer and winter, it was all the same, and on Sundays very little better, for even then we had to keep the boys' refractory noses to a kind of religious grindstone. On half-holidays we had less indoor work, but plenty to do in watching our charge out of doors. We might be ill in body, or in mind, but all the same we had to be at our posts, unless, indeed, we were absolutely bed-fast, and then we were plainly given to understand that we were dishonestly wasting our employer's time in unprofitable sickness. No wonder that ever since it makes me almost sick to look at a boy."

Surely the stone of Sisyphus was nothing to this! Of course this is an extreme case, but let any man of average strength try how exhausting it is to teach boys conscientiously for even six hours a day, without the worry of superintendence, or, what in the technical language of the profession is called "duty," and he will understand that study

is not an easy matter under all circumstances. But where there is a will there is a way, and so—"Of course some of us did work on our own account, for we had no desire to lead this life all our days. We sorrowfully improved the shining hours of our vacations, and when at school, as we had no time of our own, why, I am afraid we stole our employer's, if the truth is to be told. He did little else but run about, poking his nose everywhere to see that we were 'at it,' as he used to say, but he could not be everywhere, and so our pupils have enjoyed many blissful hours of—well, we called it *writing exercises*, while the guilty minded master devoted his surreptitious attention to the work of an approaching examination. *Discebant reges, gaudebant Achivi.*"

Assistants are furthermore charged by principals with a foolish love of change. They are always flitting from situation to situation; in a certain class of schools I am assured that six months is the average duration of an engagement; in almost all private schools I suspect that two years would be considered a long stay for an assistant. This charge is met by complaints of uncourteous treatment, of tyrannical rulers, of bad food, of want of privacy, and other grievances too numerous to mention, from which known ills assistants are found ready to fly to others that they know not of. Now, leaving out of consideration the suspicion which is cast upon a man's character and abilities by a short engagement, we feel that in another respect a change of situation is against the interest of the assistant. A new engagement is in most cases secured through one of the scholastic agency offices, and these establishments—to their disgrace be it spoken—cast all the expense of the transaction upon the poorer of the two parties. The presumably well-off principal pays nothing for concluding an engagement; but the assistant, often in needy circumstances, is taxed to the extent of five per cent. of his wretched salary, and this commission is payable immediately on the conclusion of the engagement. To a man obtaining two situations in a year, this tax must be no light matter, and, therefore, we cannot believe that an assistant would put himself in a position to incur it without good reason.

Again, it must be remembered that the principal has power to do an assistant the greatest injury by refusing to give him a good character on leaving, in the absence of which I should think a man could only get a position in a good school by resorting to deceit. Surely assistants will not run this risk at the bidding of mere caprice.

Lastly, as to the duration of engagements; let me quote the experience of an assistant, who says: "I certainly should never have stayed a year with Mr. —, but I couldn't get my salary out of him sooner." Many of these assistants are mere boys, or men ignorant of the ways of the world, and I am afraid they are sometimes put upon by the extant members of the Squeers tribe.

Of course engagements are often broken off on the part of the principal for the reason of alleged incompetency, disobedience, even immorality. It must frankly be confessed that there are men of very bad character among assistant masters, and it is to be feared that the sum of their knowledge is not enormous, though in this respect, perhaps,

they might compete with their employers. But, again, what can you expect for even thirty pounds per annum? It is no excuse for selling adulterated and poisonous wares to say that the public love cheapness. Charge an honest price, and sell an honest article. This will only be to the advantage of school-keepers, for people now-a-days are beginning to demand good schooling, and they will not be long in finding out that it cannot be had under its fair price.

One reform may be mentioned, which might certainly cost the principals something, but which would induce a better class of men to enter their employment. Why is it the almost invariable rule that the masters of a private school should reside on the premises, and have the irksome duty of looking after the boys whom the experience of public schools would show to be much better without so much of this looking after. Surely this is the duty of the man who is paid to stand *in loco parentis* to his pupils, and who may, if necessary, be allowed the assistance of one master whose time shall be devoted to that special work. But seeing that there are many men who find these duties extremely disagreeable and harassing, why should all the masters of a school be obliged to take part in them? Such men would come fresher and more vigorous to their work if they were not obliged to live under the noisy and unfriendly roof of another man, and could escape for a part of the day from the constant scene of their weary labours. It is said that many assistants would accept non-resident posts at lower salaries. But the principals look unfavourably even on this arrangement. They must have the masters continually with the boys: continually under their own eye. They are afraid to trust assistants out of the school gates. But they are not afraid to trust the care of the boys to men for whose morality they think it necessary to have the security of the same restrictions as are laid upon their pupils. "Our chief," says one master, "used to break up our time into small portions to prevent us from getting into mischief, he once told me. We were obliged to be in by nine o'clock, whether we were on duty or not, and, even if our presence was quite unnecessary, were never allowed to absent ourselves from meals."

This is not as it should be. It is not generally on questions connected with the teaching of the school that assistants give dissatisfaction to their employers. In many private schools it does not matter whether an assistant can teach well, and far too little encouragement is given to such a one, though men who are acquainted with the art of cramming for a middle-class examination are at present in great demand among more wide-awake school-keepers. More commonly a sort of hum-drum gerund grinding is all that is expected from the assistant, and even if he does his work honestly and intelligently he gets no credit by it. All the praise of good results is claimed by the principal for himself. In the public eye he is the source of all the streams of instruction that flow in his establishment, though he may have little or nothing to do with the teaching of most of the boys. And if the parents of a pupil do bethink themselves that a word of thanks for their boy's progress would not be amiss, they do not address it to the assistant master, who

probably has done the work, but to the more dignified gentleman whom they have seen sitting at the door and taking the money. So this assistant will have scarcely any motive for trying to teach well, but that of increasing the reputation and filling the pocket of a man whom he perhaps looks upon as a tyrant or a humbug, or both. I am leaving a sense of duty out of the question, for as in more exalted spheres of life that is found a too weak motive of action, we must not depend much upon its operation in private schools.

Perhaps the most frequent difficulties arise in connection with the management of the boys, and in this respect I think the assistant is unfairly treated. He is expected to be a good "disciplinarian," and is generally in a position where to maintain discipline would be a very hard task. A man with a good deal of force of character and tact may make himself respected and obeyed under the most unfavourable conditions, but, once more, in spite of the influence of competitive examinations, these inborn qualities have not yet become a mere drug in the market; without them the assistant is almost unarmed. He has to be constantly in charge of a troop of boys, among whom it is a point of honour to disobey and annoy him. He is seldom allowed to punish them severely; sometimes not allowed to punish them at all. If they are disobedient or impudent, he must appeal to the higher divinity to avenge him; and Jupiter is often found unwilling to send thunderbolts unless on his own account. If he make too many of these complaints he runs the double risk of seeming incapable to the master, and odious to the boys. A man in this position is manifestly a snubbable individual. The power of the law is not given him, only the title of a magistrate, who bears no sword, and consequently to a great extent rules in vain. He is really a sort of grown-up tell-tale, who is obliged to mix with the boys and report their shortcomings. Thus he has every chance of being both hated and despised. Boys do not necessarily dislike a man for punishing them on his own authority; but the idea of "reporting"—or in their own language *sneaking*—is repugnant to the juvenile mind. So our well-intentioned usher is not likely under such circumstances to lead a pleasant life of it. One unlucky day the badgered animal will lose all patience, and in a moment of natural irritation will knock down some impertinent lout. The youth's blubbing will move the hearts of his fond parents, the boy will perhaps be taken from the school, and the usher will follow him, dismissed nominally for the crime of having a bad temper, in reality for the much greater one of having lost a paying pupil.

To what may be called the usher-system is unquestionably due the great part of the unhappiness and disagreement and bad feeling which exist in private school life. The boys and their masters are constantly at war. Masters without due authority are not the most lenient rulers. A weak government will toady where it must, and bully where it can. Only under a strong and recognised government are peace, content, and freedom possible.

But principals, as a rule, it is said, do not wish to give their assistants too much power. They seem to be jealous of their influence.

They like them to bear in mind that they are a separate caste—only non-commissioned officers in the service—and therefore make them mess with the privates, and deprive them of the power of punishments and the honour of salutes. To bestow the title of “master” upon most men in this position would be a mere mockery. It is quite a common thing for the testimonial given to an assistant to set forth that he is “respectful in demeanour,” or “civil and obliging.” Why do these schoolmasters not put their ushers into livery at once?

Space requires this too hasty sketch to be brought to a conclusion. Perhaps it has been written in a spirit too favourable to the weaker side. But granting that there are faults on both sides, it may be clearly seen that the interior politics of private schools are not in a satisfactory state. Their teachers are divided into two classes, not standing in the respective relation of captain and subaltern, or rector and curate, but forming two separate professions, having separate interests, putting little confidence in each other, and constantly presenting towards each other at the best an attitude of armed neutrality, and often of open hostility. Which party is to be the first to lay down its arms?

An experiment has already been made with results that should be considered in this matter. The same sort of antagonism once existed between masters and pupils in almost every English school. But the relations between these two bodies have been greatly altered in every good school, since men like Arnold showed how discipline could best be maintained by trusting the boys. Why should principals not try the effect of trusting assistants?

If more confidence were put in the junior class of masters, if they were treated with more courtesy and consideration, if good teachers were encouraged by adequate salaries and the prospect of advancement, if bad teachers were not encouraged by the cheap engagement of waifs and strays of other callings, if leisure and inducement for self-improvement were granted to the younger assistants, if they were all put in a better position for gaining the respect of the boys, if they were looked upon as colleagues rather than as upper servants, we should hear far fewer complaints from them of the hardness of their life, and far fewer also from their employers of their unfitness for their duties.

Above all it would be well if every schoolmaster, principal or assistant, had a higher idea of his profession, as no common trade, but a sacred calling, in which jealousy and dishonesty and selfishness are singularly out of place. We have heard of the gospel being preached at the point of the sword; at the point of the cane, believe it, can we be taught by wise teachers to love righteousness and to hate iniquity. Would that all dominies bore ever in mind that they are not making money but making history; that the future of the next generation is in their hands; that on their earnestness and wisdom it depends whether these pliant little knees shall hereafter be bowed before a holy altar, or, in the dark and dangerous faith of selfish ignorance, shall worship the Baals of this fallen world.

## SHORT ESSAYS ON POPULAR NOTIONS OF EDUCATION.

## V.—EDUCATIONAL AGENCY NOTIONS.

**I**N our second and fourth Essays we made some remarks on Utilitarian Theories of Education, as they are, or may be supposed to be held by “practical” men, who, themselves uneducated, do not know what education means; and as they are advocated by a learned and clever student and writer like Mr. Froude, who may well be excused for an exaggerated idea of the evils of existing systems, or a too great inclination to crotchet and paradox. There is another form of the “popular notion” of useful and practical education, which is really worthy of serious and respectful consideration. We mean the opinion which we suppose is held more or less distinctly by many men, that education of the right kind is what is required to relieve the misery of the poorest classes; to enable the starving to earn their bread; to give the wretched and the vicious, or those who would otherwise grow up to vice and wretchedness, the means of rising above want and temptation, and living in honesty and independence; to diminish the mass of crime and suffering which is so dark a blot on modern civilisation and national prosperity. On this subject we may venture a few remarks in a future essay. At present we mean to call our readers’ attention to a lighter and less important matter, and to discuss the notions of education, which, to judge from appearances, might be supposed to be held by “educational agencies” and their clients.

We are, of course, not going to say anything against agencies of this kind. That they exist, and are successfully carried on, is evidence enough that they are convenient to the employers, or the employed, or perhaps to both. And if they are convenient there can be no reason why those who find them so should not make use of them. This is sufficient answer to any who may think that those who require teaching and those who supply it might correspond with each other directly, without taxing themselves with the commission paid to an agent. The machinery must be useful, or it would cease to exist. It might perhaps be made more efficient than it is—but if greater efficiency is wanted, the want may at any time call forth the supply, and it is open to any one who thinks that it *is* wanted to endeavour to supply it. We have no objection to make to the principle of agencies; our present remarks will refer only to the ideas on the subject of Education which appear to be held—not perhaps by the agents themselves, but by the public for whom they work, and whom they must satisfy if they would continue to exist.

Our readers know that if a teacher applies to one of these establishments for employment he is requested to fill up a form of application containing almost every question which can be imagined about himself and his affairs. And it is in these questions that some very curious notions may be found by those who will take the trouble to consider them.

Some of the questions, indeed, are more remarkable for their apparently useless inquisitiveness than for any educational views implied in them. A man's exact age one would think need not be known in order to form an opinion of his fitness for teaching applied science. Nor does it seem clear why a man who wants lessons in German should consider it vitally important to know whether his teacher is married or single. And is it absolutely necessary to inquire into the religion of one's dancing master? or even to know, if a foreigner, how long he has been a resident in England? and if a man can teach "vocal music" and teach it well, why on earth need one question him as to which public school he attended when he was a boy?

Of a somewhat different kind is the question as to the "name and address of last employer." Who *is* the "last employer" of the unlucky candidate whom his own fault or an unkind fate has driven to seek for employment as a "visiting tutor?" Is it the Class which he is endeavouring to form for the study of Osteology for the Custom House, or the young gentleman whom he is attempting to assist in the Scythian language for his forthcoming examination at the Imperial Institution of Chemists and Druggists—or the aspiring young man in the country, whom he has coached (by correspondence) in vulgar fractions to qualify him for a brilliant career in the University of Verulamium? Are any or all of these "employers" within the meaning of the "Form," and if so which is the *last* of them?

But let us pass on to our more immediate subject. The teacher, or would-be teacher, is required to state under the heads "Latin" and "Greek," the "highest authors" read.

Now let us consider what this means. It seems that, in the opinion of the class which employs teachers, some Greek authors are "higher" than others. Probably the classical Greek writers made a sort of compact with one another, that they would write a series of school-books, graduated in point of difficulty, for the benefit of the English school-boy of the future. One author undertook to write easy sentences for the beginner: another became responsible for the next "standard:" and so on, up to the most involved constructions and most obscure allusions, intended for the higher forms at public schools, and for students at the British Universities. The services of copyists were engaged to make corrupt passages and introduce spurious readings, in order to make the "higher" authors sufficiently high. And the Scholiasts of Byzantium were induced to contribute their comments to give completeness to the whole. But the question still remains: Supposing this gradation in "height" to exist, which *are* the higher authors and which the lower? Does the scale exist anywhere in a thoroughly trustworthy form? for a mistake would be serious. Is Pindar higher than Theocritus, or Theocritus higher than Pindar? Is Plato higher or lower than Æschylus? Does Euripides come before Lucian, or Lucian before Euripides? What is the exact relative height of Aristophanes and Philo Judæus? Surely those who ask a man to name the highest authors he has read must mean *something*. They must have some idea, more or less definite, in their own minds that such a scale exists, and that each Greek author

has his own place in the scale. But how is the unlucky candidate for an appointment to know anything about it?

Or in Latin: Suppose a man has read some Cæsar; some Virgil and Horace; half-a-dozen orations of Cicero; the same number of books of Tacitus; three satires of Persius; three comedies of Plautus; a little of Catullus; a little of Martial; a very little of Silius Italicus; a few mediæval hymns, and a chapter or two of Morhof's Polyhistor? which is the "highest" author he has read—or highest authors rather—for the plural number is required?

Or has he read any authors at all? for the question seems to imply that those who require the information take it for granted that a man reads "an author" straight through, every word of him, and then goes to a "higher" author, as a child at an elementary school grinds through the first reading-book till he nearly knows it by heart, and then goes on to the second. Or, if by "an author" they do *not* mean the whole of an author's extant writings, how much do they mean? Has a man read Euripides who has only read, say, a dozen of his plays? Has he read Horace if he happens to have omitted one of the satires? May a man claim to have read Xenophon who has not read the Economics? How many books of Livy must a man have read before he can claim to have *read* Livy, in the agency sense of the words? Are twenty books enough, or must the number amount to thirty at least?

It is to be remarked especially, that the possibility of *knowing* Latin or Greek never seems to have occurred to the minds of the framers of these questions, or the British public for whom they have been framed. The notion seems to be that a man reads a certain number of authors—more or fewer—knows all about them, and can teach them perfectly; but that he is absolutely unable to read or help others to read anything except those particular books which he can put down on his list as already studied. That the reading of one book should imply, or lead to, any power of understanding another in the same language, is inconceivable to the holder of "popular notions." One would think that if a man knew a language he could read—more or less easily and accurately according to the completeness of his knowledge—anything written in that language. At the very least one would think that he might have sufficient knowledge and intelligence to make himself acquainted with any fresh subject if circumstances required it. But the popular notion seems to be that a mechanically accurate knowledge has been gained of one particular subject, which mechanical knowledge can be brought out when wanted, and imparted to others; but that beyond this the mind is in utter darkness, and apparently beyond all power of progress or improvement; that the knowledge of the one subject has given the intellect absolutely no hold upon any other, however similar. This peculiar view of linguistic knowledge seems to hold good only in the case of Latin and Greek. It is *not* asked under the heads "French" and "German" what are the "highest authors" in those languages which the unfortunate applicant has "read." In fact the idea of *reading* French or German never seems to have been entertained at all. The questions asked under these heads are of a different kind. Any one who aspires to teach



one of these tongues must state whether his knowledge is "grammatical" or "conversational." It would perhaps be hypercritical to enquire whether the "conversation" mentioned is supposed to be as a matter of course *ungrammatical*. But at any rate the modern languages seem to have escaped the "popular notion" that one author is "higher" than another, and that the having read, or being able to read, one author is no sort of evidence of ability to read another.

But under the head Mathematics, the same kind of notion crops up again. The candidate is actually required to answer the question, "how many books of Euclid" he has read (or, can teach—whichever the meaning is—in fact to the mind of the public for whom the question is asked, the two things would go together). So that it is possible for a man to have a perfect knowledge and understanding of two books, and to beutterly without the slightest power of reading or teaching the third! One might think that the fact of knowing two books would imply some small conception of mathematical principles, which would enable the student who had gone thus far to go further; that if he really knew anything about the first two books he could, at any rate, understand the third, if he ever did read it, and therefore would be quite capable of reading it with, and explaining it to his pupil, if the latter had any need of such help. But no, the teacher knows, it would seem, just as much as *his* teacher has told him, and as he has "crammed up" mechanically, and has no idea of anything beyond that!

Under Arithmetic, we allow—and this much at least is creditable to the questioners—the would-be teacher is *not* asked how many sums he has done in each rule, or *what* sums in particular he has worked out. Possibly, indeed, this may be owing to the want of some universally accepted set of questions in arithmetic to which reference might be made, and if any such collections of questions existed, we might find the clients of our agencies requested to state whether they had done twenty or twenty-one sums in the Rule of Three, or whether their studies had extended as far as the twelfth example in Practice, or stopped short at the eleventh. But it is possible, on the other hand, that even the popular mind may have a dim sort of notion that if a man can do one sum he can probably do another like it. But would not it seem likely also to be suspected that if a man understands one proposition in Euclid he would probably be capable of understanding the next? or that if he can read a sentence of one Greek author he might also be capable of reading a sentence of another?

But it is in "English" that the popular notions of which we are treating, appear in the most extreme form, and with most remarkable effect. Our readers will see already what is the main idea in these notions—the idea that the whole domain of knowledge, so to speak, is marked off into a number of minute divisions, absolutely cut off from one another: that a certain sort of formal unintelligent perfection is attained in each separate division, and when attained can be communicated by teaching; but that every subject and every branch of each subject, is so cut off from the rest, that to know it, however perfectly, gives no sort of knowledge of, or even power of acquiring knowledge of

any other, however nearly related. In fact that a certain mass of facts is put into the mind, and can be produced when wanted—perhaps also a fixed set of explanations which are to be given in their set place, and even a certain amount of reasoning which can be gone through again, and which others can be taught to go through—a regular series of rules also, which can be applied in due course, and which others can be taught to apply—but not at all that any power is gained by the intellect—that the mental vision acquires any fresh insight, that the understanding is any way strengthened or enlarged, so as to be capable of any action beyond the routine to which it is accustomed.

However, the facts will speak for themselves better than we can speak for them. Some of them, indeed, are so extraordinary as to suggest whether the above explanation is not inadequate—and whether we must not assume some other cause, in addition to it, in order to account for the phenomena. It might be simpler to suppose that the public for whom the questions which we are considering are asked, do not know the meaning of the terms used, than to suppose that they *do* know, and have formed a theory about them. Our readers will judge for themselves.

In a form now before us, under the head “English” the applicant is desired to answer *yes* or *no* in the spaces following; to show whether he is prepared to teach the subjects whose names are prefixed, or not. “Grammar” is one of these subjects; so far good. But what are we to think when we find *Parsing* as a distinct and separate subject—as different from grammar apparently, as history and geography are different from it and from each other. This is a phenomenon in the way of a popular notion which deserves some consideration. Let us pay a little attention to it.

The fact that a teacher is asked in two distinct and independent questions whether he understands or can teach grammar, and whether he understands or can teach parsing, admits of two possible explanations (exclusive of the one we suggested just now). The questioner may either suppose it possible for a man to understand grammar and *not* be able to parse, or to be able to parse and to be absolutely ignorant of grammar. Now each of these suppositions presents some difficulties; but *one* of them must have been accepted and acted upon—apparently, as a matter of course—by the framer of the questions. He *may* have assumed that both cases are possible that some philologists devote their attention exclusively to grammar, and consider the science of parsing as foreign to their special line of study, while others find that parsing is in itself sufficient to occupy all their time and employ all their mental powers, leaving them no opportunity for gaining a knowledge of a subject which, like grammar, does not immediately concern them. But let us credit him with *one* only of the two notions—with believing that the grammar goes without the parsing, or the parsing without the grammar. Of the two, perhaps it is more likely that he holds the former opinion. It is possible, then, according to his view of the matter, that the scholar who seeks employment in teaching, has so successfully limited his own studies as to have a perfect knowledge of the laws of

thought and speech, and their relation to each other—to be perfectly acquainted with the construction of sentences and the interdependence of the words and phrases of which they are made up—to be “able to speak and write correctly” himself, and to know correct speaking and writing when he meets with it, and know, moreover, why it is correct—and yet to be utterly unable to state whether any particular word is a verb or an adjective, or whether the word *He* is of masculine or feminine gender.

We have no remarks to make about this “popular notion,” we simply recommend it to the attention of our readers. But after this it has rather the effect of an anticlimax to remark that “Analysis” is yet another distinct branch of study, utterly alien from grammar and parsing—and that “Composition” disdains to acknowledge relationship with any one of them. In some children’s books they tell us how many men it takes to make a pin. Perhaps some future “Evenings at Home” (or whatever it is), will tell us how many students it takes to learn the English language, or how many teachers to teach it.

But “English,” in the agency sense of the word, includes also history and geography, besides other arts and sciences, such as arithmetic, and land-surveying. Not dwelling upon the question how far these studies or accomplishments can fairly be called exclusively English, let us pass to the consideration of another point. Among the subjects we have mentioned occurs—apparently as the name of a science or branch of knowledge—the word “Globes” with the usual space for our unlucky candidates’ answer of “yes” or “no.” “Globes,” then (whatever they are) have at any rate no connection either with geography or with mathematics—which latter is not “English” at all, though arithmetic is. And further, another of the peculiarly “English” arts is “Mapping.” This, then, is something apart both from “Globes” and from geography—and not only from these, but from “Drawing” which comes in its own place. And yet, perhaps, it would be hard to conceive the kind of map which would be produced by one absolutely ignorant of geography, and at the same time totally unable to draw. And generally speaking, perhaps, a man who knows geography will have some idea of the meaning of one at least of the globes—and one who understands the terrestrial globe can hardly be entirely without some idea of geography.

To conclude. If any of our remarks appear captious or overstrained, at any rate this much will be allowed—that the manner in which the “forms” in question are drawn up, shows a strangely low and inadequate estimate of education—of learning and also of teaching—on the part of those for whose information they are constructed. The questions are not such as would be asked by an intelligent parent seeking an intelligent tutor for his children, or a competent head master looking for a competent assistant. The minute subdivision of the subjects—the measurement of a teacher’s knowledge or power by the precise authors he has read, or the exact number of books of Euclid he has gone through—the utter failure to take any account of intelligence, reasoning ability, taste or mental cultivation, the seeming notion that a teacher can only go through with others a certain routine which he has already

gone through himself, and teach mechanically what he has mechanically learned—these features in the forms of questions do not speak very highly for the ideas of education entertained by the clients of the education agents—whether the said clients be for the most part uneducated parents, or half-educated Principals.

J. C. V.

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## NOTE ON GEOMETRICAL PRINCIPLES.

By R. LEVETT, M.A. King Edward's School, Birmingham.



**DISCLAIM** at the outset all intention of entering into an exhaustive discussion of the principles upon which a Text-Book of Geometry should be based.

There are a number of principles which I believe must be adopted, at any rate the consensus of opinion in favour of their adoption (opinions expressed in pamphlets, and lectures, and prefaces) is such that few who venture on adding new text-books to those already in existence, will be bold enough to disregard them. I would enumerate among these the use of hypothetical construction, with its corollary, the postponement of problems until the properties of the figures it is desired to construct have been studied, the adoption of the arithmetical instead of Euclid's test of proportionality, the free use of the method of superposition, the wider conception of an angle, which is implied in Euclid, vi. 33, and the introduction of modern terms and methods such as loans, and the determination of a point by the intersection of loci.

One of these principles no doubt forces on our notice a difficulty we would gladly avoid, namely, in what manner and to what extent incommensurables are to be discussed in an elementary treatise. How this difficulty is to be met is, I venture to think, still undecided; I believe, however, that there are many who have read the sixth book of Euclid and yet are altogether innocent of a knowledge even of the existence of magnitudes which have no common measure. It is difficult to conceive that the knowledge of such, if it stop at this point, would have been one whit less useful, or their mental faculties one whit less developed, if proportion had been treated in a manner which was strictly applicable to commensurables only.

There are other principles with regard to which the question is rather in what degree they shall be adopted, than whether they shall be adopted at all. I fancy there are few good teachers who would take a class through the second book of Euclid without abundant numerical illustrations of its propositions; who would leave a boy in ignorance of the fact that a right angle has been divided into ninety degrees, and of the many useful applications which can be made of this mode of measuring angles, or who would be content with the mere proof that similar figures were in the duplicate ratio of homologous sides, without leading his class to discover that a triangle whose sides were just half as long again as those of another triangle of the same shape, must contain that other triangle just two and a quarter times. I assert with some confidence that

numerical illustrations are a necessity, except with pupils whose mathematical abilities are far above the average, and such would doubtless supply the illustrations for themselves. These illustrations should, I further hold, appear in our text-books, or they will be altogether neglected by many of our teachers.

But are we to stop at illustrations, or shall it be permitted to us to introduce numerical ideas into the proofs of the propositions? Shall it be lawful to regard a rectangle as a product, or the square on a line as the square of a number? The introduction of such ideas would greatly simplify many of our proofs, notably those of Euclid's second book, and would remove that air of unreality which hangs over most of the propositions of this book, in the minds of a large number of learners. On the other hand, it may fairly be urged, that one of the great advantages geometry as expounded by Euclid has over algebra or arithmetic, is that in this science the mind has to deal with the things themselves, and not with mere symbolical representation or measures of them, that there is none of that mere mechanical manipulation of symbols of which we have so much in the higher analysis, and in which even trained mathematicians often lose themselves. The note which appears at the head of the geometry paper in the Cambridge Mathematical Degree Examination, and which prohibits the use of the sign minus and the abbreviation  $AB^2$ , for the square on AB, declares, I suppose, the opinion of those in authority, that there shall be one science in which the attention of the student is fixed, as I said, on the things themselves, and not on mere symbolical representations of them.

Closely connected with the question of the introduction of arithmetical ideas into geometry, is the question how far shall mensuration be taught in connection with theoretical geometry. It seems to me monstrous that a pupil should have gone through his Euclid without learning that the numerical measure of the area of a triangle can be found by taking half the product of the base and the perpendicular from the opposite angle, or that he should never have heard of the way a field is measured by practical men. Yet I know from experience that this is generally the case, nay more, Euclid's methods are so unconnected with everything that is practical, that a course of Euclid hardly seems, at least in the case of the mass of pupils, to render the acquisition of such facts as I have alluded to any easier than it would have been had Euclid never been opened at all. As one more instance of the general ignorance of the simplest cases of mensuration, I may notice that according to the system of mathematical education usually pursued, a boy is not even expected to know how to find the area of a circle, until he has made a considerable advance in the study of trigonometry. Ought this to be the case?

These questions of the use of arithmetical ideas, and of the combination of mensuration with theoretical geometry, I regard then as moot points; I have not a doubt that something is wanting in these respects in our present system of teaching geometry, if Euclid be taken as the exponent of that system, yet I am not prepared to say how far the change ought to go. Others may have given the subject closer attention.

than I have, and may have arrived at more definite conclusions ; if so, I hope they will tell us what these conclusions are and the arguments upon which they are based.

I will mention only one point more, and that is one upon which I have a definite opinion. The constructions of geometry should be such as are used in actual geometrical drawing. Let any one who doubts this statement take ruler and compasses, and in the method indicated by Euclid, in Bk. iv., prop. 12 and preceding propositions, practically describe an equilateral and equiangular pentagon about a circle ; or if he admit that the construction was never meant to be used, in fact is utterly incapable of being used in such form as Euclid has presented it, let him point out to a class of boys endowed with ordinary common sense, that they are being taught to do things which cannot be done.

I hope that these few fragmentary remarks may do something to induce others to come forward and join in the discussion of a subject of so much interest to all educators.

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## UNIVERSITY OF CAMBRIDGE.


### LOCAL EXAMINATIONS FOR WOMEN.

THE Report of the Syndicate at the Second Examination for Women, held in July, 1870, informs us that the Examinations were held at three centres ; London, Manchester, and Rugby. Eighty-four candidates entered ; of these thirteen withdrew before the Examination took place ; of the remaining number, seventy-one, thirty-five passed in honours, fourteen in the third class, and twenty-two failed. In the previous year, 1869, thirty-five candidates entered, of whom twenty-five passed, so that the number was doubled the second year, and the proportion of passes was much the same. This result and the Report are on the whole encouraging, testifying to the zeal and intelligence with which the students have carried on their studies, generally under great difficulties, for, let it be remembered, that almost all the candidates for these examinations are already teachers by profession ; what preparation they can accomplish is often carried on without sufficient leisure, and with an inadequate supply of books, by their own unassisted and misdirected efforts. One great use then of these examinations is to point the lesson which is now impressing itself on the public mind : the need of a better organization for female education than at present exists. If so much has been done under such unfavourable circumstances, what may not be hoped for from regular and thorough teaching begun at an early age, and pursued through the years when the natural intelligence turns mere acquisition into real education ?

# TRANSLATION OF CICERO'S SECOND ORATION AGAINST L. CATILINE.\*

BY J. T. (LOND. UNIV.)

## INTRODUCTION.

 HIS is a much shorter piece than is generally set for matriculation; and it must be thoroughly "got up." The papers in the Calendar should be carefully examined, to obtain an idea of the kind of questions likely to be proposed. The Latin text may be had with a few notes of Messrs. J. & W. Parker (Oxford Press Series). I would advise candidates to read well the History of Catiline's Conspiracy, getting up the life of Catiline as well as of Cicero.

## TRANSLATION.

I.—At length then, Romans,† we have either cast out or sent away, or have pursued with words‡ when he was already going of his own accord, Lucius Catiline, raging with audacity, breathing out crime, impiously exerting himself for (plotting) the ruin of his country, threatening you as well as this city with fire and sword. He is gone, he has withdrawn (or left us), he has escaped, he has sallied forth. Now no destruction will be prepared against (for) these walls within the walls themselves by that monster and prodigy of wickedness.

And, indeed, without controversy (or without any ground for dispute) we have defeated him, the sole leader of this domestic war. For now that dagger will no longer be turned about our sides; neither in the campus, nor in the forum, nor in the senate-house, nor finally within our private walls shall we be afraid. He was moved from his favourite position§ when he was driven out of the city. We shall now openly wage a *regular war*|| with an enemy without any hindrance. Without doubt we have ruined the man, and have gloriously defeated him (got the better of him) when we drove him from his secret treasonable plots into open brigandage (or insurrection). But that he did not carry out with him, as he intended, his sword stained with blood, that he has departed, leaving *us alive*,¶ that we have wrested the weapon from his hands, that he has left the citizens safe, and the city standing; with what grief do you think him to have been afflicted and overcome (cast down)! Now he lies and is prostrate, and feels himself thrown down

\* This is the special Latin subject for matriculation, June, 1871.

† *Quirites*. Name given to the whole Roman people. It is derived either (a) from Quirinus, the name given to Romulus, from Sabine "quiris," a spear; or (b) from Cures, a town of the Sabines; the latter people being said by some to have been called Quirites, before their junction with the Romans.

‡ Referring to the closing words of the first oration, and the Roman custom of accompanying friends to the gates of the city with good wishes and prayers. In this case *verbis* nearly equals "imprecations," "execrations."

§ *Loco motus est* was used in speaking of a gladiator, and the term gladiator had been applied to Catiline in the first oration. His favourable position was the heart of Rome. Anthon renders it, "He was driven from his stronghold," without acknowledging the reference to the gladiators.

|| *Bellum justum*, not "a just war." This is a rather peculiar use of the word, it means "regular," "in proper order;" *bellum justum* is the opposite of *latrocinium*.

¶ *Nobis vivis*, from *vivus*-a-um, either abl. absolute, the present part. of "esse" being understood, or more probably abl. governed by *egressus est*.

and desponding, and certainly he often turns back his eyes\* towards this city, which he mourns over as snatched from his throat, which to me indeed seems to be rejoicing because it has vomited forth and driven out of doors such a pest.

II.—But if there is anyone of such a disposition as all ought to have,† who severely accuses me on account of the very thing in which my speech exults and triumphs, because I did not apprehend so deadly (dangerous) a foe, rather than allow him to depart; the fault is not mine, O Romans, but *that* of the times. Lucius Catiline ought to have been visited with the severest punishment, and have been put to death long ago,‡ and both the customs of our ancestors, and the strict discharge of the duties of my magistracy (office),§ and the interests of the republic demanded this of me. But how many do you think there were who would have believed what I might have alleged against him *to the senate* ¶|| How many who from want of judgment would not have thought *the charges true*? How many who would even have defended *him* ?¶|| How many who on account of their own wickedness would have favoured *him* (or *his cause*)? And yet if I had thought that by his death\*\* all danger was driven away from you, long since would I have had him put to death, at the risk not only of unpopularity (hatred against me), but also of my life. But when I saw that if I should punish him with death as he deserved, while the affair†† was indeed not as yet proved to you all, it would happen that, borne down by unpopularity, I should not be able to follow up his accomplices: I have brought the business to this point, that you may both be able to fight openly, and plainly see the enemy.

Whom indeed, how exceedingly I think he should as an enemy†† be feared, now he is out of doors, you may understand from this—that I am even grieved§§ that he has gone from the city so slightly attended.|||| Would that (or I wish that) he had led out with him all his forces!

He has led out with him my¶¶ Tongilius, whom he had begun to love\*\*\* in early youth.††† *He has also taken away* Publicius and

\* *Retorquet oculos*, as a wild beast would turn his eyes after the prey, which had been torn as from his very jaws.

† *Quales esse omnes oportebat*. The disposition referred was that which inclined to put Catiline to death. Cicero says all ought to have been so disposed.

‡ I have reversed the order.

§ Supply *consularis* with *imperi*. Cicero was at the time consul.

¶ The imperfect sub. is here used for the pluperfect. The "ego" is used because it was supposed that Cicero was Catiline's private foe. Supply with *deferrem* ad senatum.

¶|| Supply *eum*, Catilinam.

\*\* *Ille sublato* = morte Catilinæ.

†† *Re*—the actual existence of the conspiracy and the guilt of Catiline.

††|| Or How much I think this enemy should be feared, &c.

§§ It will be seen that *quam vehementer* is ironical.

|||| *Parum comitatus*. Comitatus is here used in a passive sense. Plutarch says he had 300 armed followers. Sallust says, "*Cum paucis*."

¶¶|| Note the force of *mihi*; it is the ethic dative to show the person spoken of is regarded with interest. Vide *Principia Latina*, pt. iii., § 290. Tongilius was a bosom friend of Catiline and a man of infamous character, as may be learned from the context.

\*\*\* Or—with whom he had begun to have criminal intercourse in his youth.

††† The *prætexta*, or *toga prætexta*, was the gown which the Roman youth wore till they were seventeen years of age. It is here put for the period of life during which it was worn. We generally find the word *calumnia* after *prætexta*, generally in brackets. It seems to



Munatius, whose debts\* contracted in a tavern, could have no effect on the republic. What men has he left behind him! how greatly in debt! how powerful! how noble!

III.—I, therefore, in comparison with our Gallic legions,† and this levy which Q. Metellus‡ has made in the Picenian§ and Gallic|| districts, and with these forces which are daily provided by us, despise that army composed of desperate old men,¶ of profligate rustics,\*\* and bankrupt farmers. Of those who had preferred to abandon their bail†† rather than that army; to whom, if I show not only the array of our army, but even the mere edict of the prætor, they will fall prostrate to the ground. I wish he had taken with him, as his soldiers, those whom I see sitting about in the forum, standing‡‡ by the senate-house, and even coming into the senate, §§ who are sleek with perfumes,||| and who glitter in purple,¶¶ who, if they remain here, remember that that army is not to be so much feared by us, as those who have deserted the army. And in this they are even more to be feared, because they know that I am aware of what they are thinking, and nevertheless are not influenced by it. I know to whom Apulia\*\*\* has been assigned, who has Etruria,††† who the Picenian,‡‡‡ who the Gallic territory, and who has begged for himself the duty of carrying on plots for spreading fire and sword through the city. §§§

They know that the plans of the preceding night|||| have been brought to me; I disclosed them yesterday before the senate;¶¶¶ Catiline himself was much alarmed, and has fled. What do these men

have crept into the text through some copyist having put it in an expression of his disbelief in Cicero's assertion. Or we may translate it as in a parenthesis, "a mere calumny," which must, of course, be regarded as ironical.

\* *Æs meum* is my money; *æs alienum* is money belonging or owing to another—hence, debt.

† He refers to the regular forces in Transalpine Gaul, which were probably at this time in winter-quarters. Some read *et*, and others *præ*, before *Gallicanis legionibus*.

‡ Q. Metellus Celer was then prætor, and had been sent by the senate into Picenum to raise troops.

§ Picenum, or Picens Ager, was a district in Italy, E. and S.E. of Umbria. Inhabitants of Sabine origin.

|| *Gallicus Ager*. Cicero applies this name to Cisalpine Gaul, especially to that part from which the Senones had been driven.

¶ By this is meant the veterans of Sylla.

\*\* *Agresti luxuria* = *agrestibus luxuriosis*.

†† *Vadimonium* was the recognizance by which a man bound himself to appear in court on a certain day. If he abandoned it he was accounted infamous, and his goods were given to his creditors.

‡‡ The acc. *quos*, with its following inf., depends upon *video*.

§§ Eleven senators were implicated in the conspiracy.

||| These perfumes were unguents (not oils), and the use of them was considered a mark of effeminacy.

¶¶ The tunic of a senator had a broad purple border, whence its name *latus clavus*.

\*\*\* Apulia, in the S.E. of Italy.

††† See previous notes.

‡‡‡ On the W. coast of Central Italy.

§§§ The reader will see I have departed very much from the literal rendering of this passage. It may be translated. And who has begged for himself the carrying on of these plots in the city for slaughter and conflagrations.

|||| That is, of the night in which they had met in the house of Lœca—the last but two.

¶¶¶ In his first oration against Catiline.

expect?' They are, indeed,\* much mistaken, if they hope that my former lenity will last for ever.

IV.—I have now obtained what I have been waiting for, *namely*, that you might openly see that a conspiracy has been formed against the republic. Unless, in truth, there be any one who thinks that those who are like Catiline† *in character*, do not agree with him. There is no longer place for lenity; the thing itself calls for severity. One thing, even now, will I grant: let them‡ depart, let them be gone. Let them not allow the unhappy Catiline to pine away through grief for their absence. I will show them the road: he set out by the Aurelian way.§ If they will but make haste they will overtake him by evening. Oh happy republic, if it shall have cast forth these dregs of the city! Be Hercules, with Catiline alone removed,|| the republic seems to me to be relieved and refreshed. For what evil or wickedness can be imagined or thought of, which he did not conceive?

What poisoner, what gladiator, what thief, what assassin, what parricide, what forger of wills, what fraudulent person (sharper)¶, what debaucher, what spendthrift\*\* (prodigal), what adulterer, what abandoned woman, what corrupter of youth, what profligate, what incorrigible fellow (scoundrel), can be found in all Italy, who do not confess that they†† have lived on terms of the greatest familiarity with Catiline? What deed of murder has been committed during these last years without him? What abominable act of debauchery has been perpetrated without him? Nay, too, what so great talent for alluring the young to debauchery has there ever been in any man as in him?‡‡ Who himself indulged in most disgraceful love with some; most shamefully gratified the loves of others for himself; promised to some indulgence in their lusts; to others the death of their parents, not only by instigating, but also by aiding them. But now how suddenly had he collected, not only from the city, but also from the country, an immense number of abandoned men! There was no one either in Rome or in any other corner of Italy§§ oppressed with debt, whom he did not join to this extraordinary treaty of wickedness.

V.—And that you may be able to understand his different endeavours when contrasted with each other, there is no one||| in any school

\* Næ is from the Greek *vai*. It expresses strong affirmation, and is sometimes written *ne*.

† Catilinæ is gen. and not dat., as might be supposed. Similis takes dat. of external resemblance, and a gen. of resemblance in nature or internal constitution. (Zumpt, L. G. p. 270.)

‡ That is, *Catalinæ similes* or *conjurati*.

§ *Aurelia Via* led to the north of Etruria, where were the camp and army of Mallius.

|| *Exhausto* is used with allusion to *sentina*, employed above in a fig. sense. It really means the water that collected in the hold of a ship—bilge-water.

¶ *Circumscriptor* was one who defrauded another by any artfully worded writing.

\*\* *Nepos* came to have the meaning assigned to it above, probably because grandchildren often become prodigals, &c., through having too much indulgence, or too little attention.

†† Be careful to put "they;" "he" won't do, because of *mulier infamis*.

‡‡ In this and the few following words it is impossible to give the full force of the original. See Romans i., v. 24 and 27. Or, "Nay, too, what seductive attraction for youth has there ever been in any man, so great as in him?"

§ § It will be seen that this rendering is not quite literal.

||| Or thus—"And that you may be able to perceive his different talents in different

of gladiators a little more audacious in crime *than his fellows* who does not confess that he is intimate with Catiline ; no one on the stage more worthless and profligate than ordinary\* who does not relate that he has been his boon companion. And yet the same man, accustomed to the continual exercise of lewdness and crime, and to bear cold and hunger, and thirst, and watchings, was called brave by those fellows, while *at the same time* the aids of honest industry† and the means of virtue‡ were wasted on (employed in) lewdness and audacious wickedness. But if his companions follow him ; if the infamous troops of desperate men go out of the city, O, how happy shall we be ! how fortunate the republic ! how illustrious the glory of my consulship !

For now the impure desires of *these men* are not ordinary, nor *are* their daring excesses human and tolerable ;§ they think of nothing but bloodshed, conflagration, and rapine ; they have squandered their patrimonies ; they have wasted their fortune in luxurious living ; money has for a long time failed them, and, lately, credit also has begun to *forsake them* ; yet the same desire which was (*i.e.* they had) in the days of their abundance *still* remains.

But if in their drinking and gambling parties they merely had revelings and harlots in view, they might indeed be despaired of, and yet endured. But who can bear this—that indolent fellows should plot against the bravest men, the most foolish against the most intelligent, the intemperate|| against the sober, the drowsy¶ against those who are awake, that men lolling at banquets,\*\* embracing abandoned women, languid with wine, overloaded with food, crowned with chaplets, besmeared†† with perfumes, worn out with their debaucheries, should belch forth in their discourse the slaughter of good men, and the burning of the city ?

Over whom I am confident some dreadful! fatality is impending,‡‡ and that the punishment long since due to their wickedness, villainy, crime, and lust, is either now evidently at hand or certainly approaching. And, if my consulship, since it cannot bring them back to a sound mind, has removed them, it will add, not some short period but many ages of duration to the republic.

kinds of vice;" or *in dissimili ratione* may be "in his unequal (varied) mode of life." Cæsar calls him afterwards both an actor and a gladiator.

\* Note the force of *levior* and *nequior*, and compare with the meaning given to *paulo audacior* above.

† *Industrie subsidia* refers to the powers of patient endurance which he had, and which might have led to a life of active usefulness. The power of bearing cold, hunger, &c.

‡ *Instrumenta virtutis* refers to the endowments Catiline had for the performance of distinguished and praiseworthy actions.

§ More freely—and their daring excesses are neither tolerable, nor are they such as we might expect to be committed by men, (*humane*).

|| *Ebriosos*, intemperate, those who are habitual drunkards ; *ebrios*, those actually drunk.

¶ Those who are careless, negligent.

\*\* *Mihi* expresses contempt ; it is redundant.

†† From *oblino*, &c.

‡‡ It would be better to render *quibus* "over these men," and put it after impending. It reads awkward to keep it quite literal. In one or two other similar cases I have deviated from a strictly literal rendering.

For there is no nation for us to fear; no king can make war on the Roman people. All foreign affairs have been brought into a state of peace, both by sea and land, by the valour of one man.\* Domestic war alone remains. Within are plots, within is danger, within is the enemy! We must fight against† luxury, against madness, against wickedness. I freely offer myself, O Romans, as the leader for this war; I will suffer the enmity of these abandoned men.

Whatever shall be capable of being healed I will heal by all possible means; what should be cut off I will not allow to remain for the ruin of the state. Therefore, let them either go away or keep quiet, or if they remain in the city in the same mind as they are in now let them expect what they deserve.

VI.—But there are some, O Romans, who say that Catiline has been driven by me‡ individually into banishment. If I could effect this§ by a mere word, I would drive out those who say these things (or who say so).

The timid and very modest man, to be sure, could not endure the voice of the consul;|| and so soon as he was ordered to go into banishment, he obeyed, he went.¶ Yesterday, when (after) I had been almost murdered at my own house, I called the senate together into the temple of Jupiter Stator; I related the whole affair to the conscript fathers. When Catiline had come thither what senator spoke to him? Who saluted him? Who, in fine, looked upon him as an abandoned citizen, and not rather as an intolerable enemy?

Nay, even the chiefs of that body left that part of the seats to which he had come, naked and empty. Hereupon I, that violent consul, who drive citizens into exile by a single word, asked Catiline whether he had or had not been at the nocturnal meeting at the house of M. Læca. When he, though a man of the greatest audacity, convicted by his conscience, was at first silent, I disclosed the rest of the circumstances; I described what he had done that night,\*\* what he had appointed for the next, how the plan of the whole war had been laid down by him. When he appeared disconcerted, when he remained silent, I asked him why he hesitated to go where he had for a long time been preparing to go; when I knew that arms, the axes, the fasces, the trumpets, and military standards, and that silver eagle for which he had consecrated a wicked shrine at his own house, had been sent forward, did I cast him into exile whom I saw already to have entered upon open war? I suppose†† that centurion, Manlius, who has pitched his camp

\* *Unius* refers to Pompey, who had just brought the second Mithridatic War to a conclusion.

† *Nobis certandum est*. The gerundive participle used in the neuter impersonally, with the dative of the agent.

‡ *A me*, that is, by my threats.

§ The relative *quod* beginning the sentence is to be translated as if it were *hoc*. See previous note on the relative standing first in the sentence.

|| This is, of course, all ironical, for certainly Catiline was neither timid nor modest.

¶ Texts very much vary here. I prefer *ivit*; some have *quievit*.

\*\* Here is generally put in *ubi fuisset*, "where he had been," but which is not in many MSS., and is implied in the question Cicero had just asked him.

†† *Credo* indicates that the whole is said in irony.

in the Fæsulian territory,\* has declared war against the Roman people in his own name; and that camp does not expect Catiline as its leader, and he, having been driven into exile, will betake himself, as they say, to Marseilles,† and not to that camp.

VII.—Oh wretched situation, not only of governing but of saving the republic! Now, if Lucius Catiline, hemmed in, and crippled in resources by my counsels, toils, and dangers,‡ shall have suddenly taken alarm, changed his purpose,§ and deserted his friends, and shall have turned his steps from this career of wickedness and war to flight and *voluntary* exile: he will be said not to have been stripped of the arms of his audacity by me, not to have been astounded and dismayed by my diligence, not to have been driven from his hope and undertaking, but without even the formality of a trial,|| innocent, to have been driven into banishment by the consul by violence and threats.¶

And there will be those who will seek to have him thought, if he does this, not a wicked, but an unfortunate *man*; and me, not a most diligent consul, but a most cruel tyrant. I am quite willing,\*\* O Romans, to endure the storm of this unmerited and unjust odium, so long as the danger of this horrible and impious war is kept off from you. Let him, indeed, be said to have been banished by me so long as he goes into banishment. But, believe me, he won't go. Never will I ask of the immortal gods, O Romans, for the sake of taking away the odium there is against me (meæ), that you may hear that L. Catiline is leading an army of enemies, and is moving to and fro in arms;†† but, nevertheless, in three days ye will hear it: and I much more fear that at some future time that‡‡ may be a ground of much censure *against me, namely*, that I allowed him to escape rather than that I banished him. But when there are men who say now that he has gone forth, that he has been banished, what would the same say if he had been slain?§§ Though *there are* those||| who keep on saying that Catiline is going to Marseilles, yet they do not complain of this as much as they dread it. For there is not one of them so compassionate *on his account*, as to be more inclined for him to go to Manlius than to Marseilles. But he, if he had

\* Fæsula was in Etruria, at the foot of the Apennines, and [not far from where Florence now stands.

† Massilia in Gallia Narbonensis had, since the Punic Wars, been the faithful ally of Rome. Many exiled persons chose it as their residence, and Catiline stated in some of his letters that he was going there as a voluntary exile.

‡ *Pericula* refers to the dangerous measures he had taken against Catiline.

§ That was of making war upon his country.

|| *Indemnatus*. The laws of the Twelve Tables forbade a Roman citizen being banished without a judicial verdict. Clodius afterwards brought in a law that whoever had thus banished a citizen should be exiled—and Cicero was obliged to go into banishment.

¶ *A consule vi*, &c. Note the *a* with the living agent, and not with *vi* and *minis*.

\*\* *Est mihi tanti*. We must understand that Cicero doubtless accompanied *tanti* with a gesture of some kind. The phrase *subire*, &c., is nom. to *est*. To endure the storm, &c., is *that* to me, or I don't care *that* for it, &c.

†† That is, he is going about in the republic with armed forces.

‡‡ *Illud* is explained further on by "quod illum emissem, potius quod," &c.

§§ Cicero, in his first oration, had advised Catiline to quit Rome. Note the antithesis between *pro-fectus* and *inter-fectus*.

||| The secret friends of Catiline and enemies of their country. They had cause to dread his going to Marseilles, because then they could not have carried their plans into execution.

never before planned this which, by Hercules, he is now doing,\* yet would rather be slain while acting as a bandit, than live as an exile. But now, when nothing has happened to him against his own wish and design, except that he has gone away from Rome while I remain alive,† let us rather wish that he may go into exile than complain *if he should go, (which he will not)*.‡

\* That is, making war on his country.

† Several plots had been formed against Cicero—one of which was to assassinate him. These had failed.

‡ It seems necessary to understand the words in brackets to get the full sense of the passage. Words in *Italics* in this translation are not in the text.

*To be concluded in our next issue.*

EXPLANATORY.—In our last we stated that a meeting of teachers would be held to discuss various interesting questions. That meeting was held, and came to the conclusion that the formation of another society would be inopportune just at present, as the Scholastic Registration Society were mooted one or two questions of great importance, and it would be best to see if Government adopted the resolutions of that society. We would impress upon our readers the necessity of making themselves acquainted with these resolutions (*vide* correspondence) and assisting when possible the efforts of the society.

## EXAMINATION PAPERS.\*

6. State and prove the rule of signs in the multiplication of one algebraical quantity by another.

Divide  $a^2 + 2b^2 - 3c^2 + bc + 2ac + 3ab$  by  $a + b - c$ .

7. Simplify the expressions  $\frac{a+b}{a-b} \times \left(1 - \frac{b}{a}\right) \times \left(1 + \frac{a}{b}\right)$  and  $\frac{x^3 - 3x^2 + 2x}{x^2 - 7x + 6}$ .

8. Solve the equations—

$$(1). \frac{x+11}{3} + \frac{x-43}{15} = \frac{x+17}{5};$$

$$(2). \begin{cases} \frac{x-y+1}{x} = \frac{1}{a}, \\ \frac{y-x-1}{y} = \frac{1}{b}. \end{cases}$$

9. Prove the rule for finding the sum of  $n$  terms of an Arithmetical Series of which the first term and the common difference are given.

Find the sum of the series—

$$\frac{3}{2} + \frac{1}{2} + \frac{1}{6} + \frac{1}{18} + \dots \text{ to } n \text{ terms;}$$

and of

$$\frac{n+1}{n} + \frac{n}{n+1} - \frac{n^2}{(n+1)^2} + \dots \text{ to infinity.}$$

10. If  $a:b::c:d$ , prove that  $a:a-b::c:c-d$ ; and that  $a^2+b^2:a^2-b^2::c^2+d^2:c^2-d^2$ .

\* Taken from late Matric. Papers, [Lond. Univ.]

CYROPÆDIA, BOOK II.—*Continued.*

## ANALYSIS.

9. *Τί μὴν ἄλλο . . . κ. τ. λ.* ; what other thing, indeed, do you perceive better than this ?

*ἰνорᾶς*, 2 sing. pres. of *ὁράω*, ὁ-φ-ομαι, *ἰώρακα*, I see ; takes acc. ; *ἄμεινον* adj. compar. neut. *ἀμείνων*, ὁ-ή, better. *τί*, interrog.

*ἔγω μὲν-ἂν . . . ἐποιούμην*, I would, if I had the power, have made as soon as possible, arms for all the Persians who are coming.

*εἰ ἔχοιμι*, a mere supposition ; suppose. *εἰ* and opt. in first clause, and *ἂν* with imperf. ind. in second clause.

*οἰάπερ . . . κ. τ. λ.* just such as they who are coming from us who are called of the equals in honour have.

*οἰάπερ*, acc. pl. neut. of *οἶσπερ*, etc. by *ἔχοντες*.

observe *προσιούσιν*, dat. pl. masc. pres. part. of *προσῄμι* ; part. *ἰών*.

*ταῦτα δ' ἐστὶ . . . κ. τ. λ.* ; *ταῦτα*, nom. pl. neut., of *οὗτος*, *αὕτη*, *τοῦτο*, this. The neut. of adj. is joined to subs. masc. or fem. Vide Jelf, vol. ii. sect. 381. The substantives here are *θώραξ*, ἄκος, δ, breastplate ; *γέρον*, ου, τὸ, a shield ; *κοπίς*, ἰδος, ἡ, a short sword ; *σάγαρις*, εως, ἡ, a battle axe.

*περὶ τὰ στήνα* ; *περὶ*, around, with acc. ; *στήνον*, ου, το, breast.

*εἰς τὴν ἀριστερὰν*, acc. sing. of *ἀριστερὸς*, ἀ, ὃν, left hand.

*κἂν = καὶ-ἔαν*, and if.

*παρασκεινάσῃς*, 2nd sing. 1st aor. subj. or conj. ; as Jelf, of *παρασκεινάζω*, *άσω*, provide, with *ταῦτα* in acc. And if you shall provide these, you will make it safest for us.

*ποιήσεις*, 2nd sing. fut. ind. active of *ποιέω*, ἤσω, I make, with *τὸ ἵναι*, in acc. ; observe the use of inf. here ; and in Greek with article for a noun ; and that the article is declined before ; *τὸ ἵναι* = the going ; *τοῦ ἵναι*, κ. τ. λ. in all cases.

*ἀσφαλέστατον*, is super. of adj. agreeing with, and neut. of *ἀσφαλῆς*, *ἀσφαλέστερος*, *ἀσφαλέστατος*, safe ; *ὁμός* takes dat., up to, towards ; but observe position of *τοῖς ἐναντίοις*, between *τὸ* and *ἵναι*. The inf. though used as sub. also retains the power of a verb, and governs—*ἡμῖν* in dat. by adj. here.

*τὸ φεύγειν ἢ τὸ μένειν*, same use as above ; the fleeing than the remaining, is preferable to the enemy. Adjectives implying, differing from, preferring, &c. take dative.

*τάττομεν . . . κ. τ. λ.*, we arrange ourselves against those who remain ; *τάττω*, or *τάσσω* ; *τάττω* ; *τάττω*, I arrange ; observe the force of *αὐτούς*, ourselves ; *ἡμᾶς αὐτούς*, reflexive of *ἑμαυτοῦ*, ἡς, and the plur. *ἐπὶ*, against.

*οἳ γε-μεντᾶν . . . κ. τ. λ.* Separate *μενταν* into *μέντοι* and *ἂν*, and join *ἂν* to *οἳ* ; whosoever, to be sure, may flee. Vide Jelf, vol. ii. sec. 828, obs. 2 ; *αὐτᾶν*, of them.

*φεύγωσι*, 3rd pl. pres. subj. of *φεύγω*, *φεύξομαι*, *πίφηνγα*, I flee.

*τούτους . . . κ. τ. λ.* ; *νέμομεν*, these we assign to ; acc. and dat. by verb.

νέμω, νεμῶ, *νενίμηκα*, allot, distribute, assign.

ὥς μὴ, that they may not be at leisure, either to remain, that is, stand their ground, or rally again.

ἀναστρέφεσθαι, in middle. *στρέφω*, *στρέψω*, I turn again.

10. It seemed to Cyaxares that he spoke well. *ἔδοξε*, 3rd sing. 1 aor. ind. of *δοκέω*, *δόξω*, to think, judge.

καὶ τοῦ μὲν . . . κ. τ. λ., and he did not again make mention of sending for more.

*ἐμμένητο*, 3rd sing. pl. perf. of *μινύσκω*; *μνήσω*, *μύμνημαι*, I mention, remember; with *τοῦ*, *μετα*.

*πέμπεσθαι*, in gen. Inf. as noun, and in gen.

*μεταπέμπομαι*, *πέμψομαι*, I send for, demand, with acc.

καὶ σχύδόν τε . . . καὶ, and they were almost ready when, or when almost ready, &c.

*ἔχοντες*, with.

11. *συναγαγὼν*, part. of 2nd aor. of *συνάγω*, *ἄξω*, 2 aor. *ἤγαγον*, to assemble, collect, with acc.

*ἐγὼ ὑμᾶς ὅρῶν* . . . κ. τ. λ., I seeing you yourselves completely armed, etc.

*αὐτοὺς* with *ὑμᾶς*, *καθοπλισμένους*, part. perf. pass. of *καθοπλίζω*, *πλίσω*, *πλίσμαι*, I am wholly armed.

*παρεσκευασμένους*; same part. acc. pl.

ὥς χεῖρας, ὥς=εἰς, up to the hand; close fight; acc. in position of adv.

*συμμιζόντας*, part. of fut. acc. pl. masc. of *συμμιγνυμι*, *συμμιζω*, I join battle; mix, with dat.; verbs of mingling with, take dat.

τούς δὲ ἐπομένους . . . κ. τ. λ., *γινγνώσκων*, part. pres. with *Πέρσας* in acc. of *Πέρσαι*, ὦν.

*ἐπομένους*, part. pres. acc. pl. masc. of *ἔπομαι*, *ἑψομαι*, I follow, with *ὑμῖν* in dat.

ὅτι οὕτως . . . that they were so armed; ὥς ὅτι, as *that*, or *so as*, or *as ὥπλισμένοι εἰσιν*, 3rd pl. perf. pass.

*πρὸςωτάτω σταθέντες* . . . κ. τ. λ.; *πρὸςωταω*, at distance; *σταθέντες* 1st aor. part. pass.; nom. pl. mas. of *ἵστημι*, *στήσω*, *ἕστηκα*, I place; cause to stand; agrees with the principal subj.

*μάχεσθαι*, is pres. inf. of *μάχομαι*, *μαχέσομαι*, I fight. Inf. after verb of ability, understood, able to fight, stand at distance.

*ἔδεια μὴ* . . . κ. τ. γ.; feared least; *ἔδεια*, 1st aor. ind. act. of *δεῖδω*, *δείσομαι*; *δέδοικα*; 1st aor. *ἔδεια*, I fear.

*συμμάχων*; gen. pl. by *ἔρημοι*, destitute of—allies.

*συμπίπτοντες*, ye meeting with; pres. part. of *πίπτω*, *πεσῶμαι*, and dat.

*πάθοιτέ τι*; might have suffered some evil, or misfortune.

*τὰς γὰρ μέντοι* . . . κ. τ. λ. it is our work to sharpen their spirit, courage; *ψυχῇ*, *ψυχῆς*, ἡ, spirit, soul, courage.

*ἄρχοντος γὰρ ἐστίν*, . . . κ. τ. λ. for it is the part of a leader not only to shew himself brave.

*ἄρχοντος*, gen. by *ἐστίν*.

*οὐχ* . . . *μόνῃ* = not only.

*ἐαυτόν* . . . *ἀγαθόν*, good in war, brave.

*παρίχω*, *ἔξω*, and *σχέσω*, I render, offer.



ἀλλὰ δεῖ καὶ . . . κ. τ. λ. ; but it behoves him to take care of those who are led, that they shall be as brave as possible.

ἐπιμελεῖσθαι, inf. of ἐπιμελέομαι ; μελήσομαι, I take care of ; and gen. verbs of caring for, take gen.

ὅπως . . . ἔσονται, fut. of εἶμι, ἔσομαι.

ὥς . . . βέλτιστοι, -ῶς, and super.

12. οἱ δ' ἡσθήσαν . . . κ. τ. λ. ; and they were all glad ; ἡσθήσαν, 3rd pl. 1st aor. pass. ; of ἡδομαι, ἡσθήσομαι, ἴσμαι, I am delighted.

μετὰ πλειόνων, observe the force of μετὰ, with, along with ; in connexion with ; so as to receive support from ; to fight in company with. ἀγωνιεύσθαι, fut. Attic of αγωνιόζμαι, ἴσομαι, Attic αγωνιουμαι, I contend ; struggle.

εἰς αὐτῶν . . . gen. by pron. εἷς.

13. ὅταν, whensoever, joined to subj. here.

οἱ ἡμῖν μέλλοντες . . . κ. τ. λ. ; who are to be ; as a fut. vide Jelf vol. ii. 408. μέλλω, represents the action in the moment of its beginning to be developed as in relation to time present to speaker ; μέλλω, μελλήσω, I am about to do ; or I am about to ; the inf. expresses the kind of action ; συμμάχεσθαι, fight in company with.

ἀλλὰ . . . γάρ, but I at least know ; vide Jelf, vol. ii., 786 sect., obs. 6.

οἱ οἱ τῶν ἱκανωτάτων . . . κ. τ. λ. The words of those who are most able to benefit or injure (do well or ill).

ἱκανωτάτων, with inf. after verb of ability, &c., ἱκανός εἰμι.

οὗτοι καὶ μάλιστα . . . κ. τ. λ., these also mostly, or especially ; οὗτοι, relates to λόγοι.

ἐνδύονται, 3rd pl. of ἐνδύομαι, I clothe ; invest ; takes acc. of garment ; enter into ; in this sense may take dat. ταῖς ψυχαῖς, into the souls of those who hear.

καὶ, καὶ ἔαν, and if such persons ; τοῖσδε, so great, distinguished, such.

καὶ ἂν, and they should happen to be less, than from equals. καὶ ἂν,

though. μείω, nom. pl. neut. of μείων. μείονος, pl. μείονες, μειοῦς ;

μείονα, μείω, smaller ; and is nom. to τυγχάνη, 3rd sing. subj. of

τυγχάνω. τεύξομαι τετύχηκα, happen ; fall out ; ὄντα, nom. pl. of

ὢν, οὐσα, ὄν ; of εἶμι.

ἢ τὰ, than those ; resolved comparison, by ἢ ; παρὰ τῶν, from, press with ; gen. motion from ; gen. dat. and acc. governs.

ὁμως μείζονος . . . κ. τ. λ. Yet they who receive them value at more, or value more ; verbs and adjectives of valuing take the gen.

τιμῶνται, 3rd. pl. pres. middle of τιμάω, ἥσω, τιτίμηκα, I honour, esteem.

καὶ . . . οἱ Πέρσαι παρασάται, Persian comrades ; παρασάτης, ου, one who stands by the side of.

ἡσθήσονται, shall be delighted ; fut. of ἡδομαι, I am glad.

παρακαλούμενοι, being called ; nom. of part., by attraction to subject of verb ; καλέω, ἔσω, I call beside ; invite.

ὑπὸ, = by with gen. ; πολὺ μᾶλλον, much more than by us. He speaks of what has just been done ; their admission by Kyros to be equals ; in contrast to themselves ; the equals.

εἰς τό . . . κ. τ. λ. καθιστάμενοι pres. part. middle ; nom. of *κάθιστημι*, στήσω, *ίστηκα*, I place ; appoint.

ἡγήσονται, 3rd. pl. fut. ind. of *ἡγεύμαι*, *ἡσμαι*, I lead ; guide ; think or judge.

σφίσιν, with themselves. To consult for benefit of ; takes dat.

ἔχειν τοῦτο, that they hold more firmly this.

ὑπὸ . . . παιδός, by son. *Βασιλείως*, gen. by *παιδός*, καὶ unites this and στρατηγού, gen. of *στρατηγός*, οὗ, leader of an army.

γενόμενον, as being more secure.

ἢ εἰ . . . κ. τ. λ. Than if this same honour might be from us. *γίγνομαι*, 3rd sing. pres. opt. of *γίγνομαι*, *γενήσομαι*, *γενένημαι*, I am ; I live ; or become.

ἀπεύχωναι, to be wanting ; it is necessary that our part be not wanting.

ἀλλὰ παντὶ τρόπῳ, but by every method ; it behoves us to excite the courage of the men.

14. καταθεῖς τὰ ὅπλα :—καταθεῖς, 2nd aor. part. act. κατα. τίθημι, *θήσω*, *τεθείκα*, I place down ; deposit ; in active voice, observe. In moods and part. aor. 2nd used.

συγκαλέσας, and having called together the whole army.

15. Ἄνδρες Πέρσαι, ὑμεῖς καὶ, κ. τ. λ. ; ye were born in the same country, and brought up with us.

ἔφυτε, 2 aor. 2 pl. of *φυμι*, *φύσω*, *πέφυκα*, I produce, beget ; in 2 aor. in passive sense, and same also in perf. and pl.

τῇ αὐτῇ, the same ; supply γῇ :—*ἐτρέφητε*, 2 aor. ind. pass. of *τρέφω*, *θρέψω*, I nourish, rear ; perf. pass. *τέθραμμαι*.

καὶ τὰ σώματα . . . κ. τ. λ., and ye have bodies not worse than those of us ; *ἡμῶν*, direct comparison ; gen. by comparative.

ψυχάς τε . . . προσήκει . . . κ. τ. λ., and it is fitting for you to have souls not worse than us ; *προσέκει*, impers. takes *ἡμῖν* in dat. and also inf.

ψυχάς, acc. after *ἔχειν*.

τοιοῦτοι δ' ὄντες, but being such ; ἐν μὲν τῇ πατρίδι οὐ μετείχετε, κ. τ. λ., in your own country ye did not share equal rights with us.

μετείχετε, 2 pl. imp. of *μετέχω*. *μεθέξω*, or *σχίσω*, 2 aor. *μετεσχον*, I share with ; participate in ; verbs implying share of, take gen. of thing parted ; dat. governed by *ἴσων*, equal to, gives its own reason for dat.

ἀπελαθίνετε, nom. pl. part. pas. 1 aor. of *ἀπελαύνω*, *ελάσω*, *ελήλακα*, I expel, reject, not being rejected by us.

ἀλλὰ ὑπὸ τοῦ, but by this ; gen. of inf. giving the reason of rejections.

ἀνάγκη . . . εἶναι, that there was a necessity for you.

τὰ ἐπιτήδεια . . . πορίζεσθαι, to procure the necessaries of life.

πορίζω ἴσω, I go through, meddle, I acquire, get, with acc.

νῦν δὲ ὅπως μὲν ταῦτα . . . κ. τ. λ., *μελήσει*, impers. it shall be a concern to me with the gods helping, that ye shall have these things.

ὅπως, that, with fut. used impers.

ἔξεστι δ' ὑμῖν, it is allowed, is a thing lawful for you ; impers. with dat.

But λαβόντας is not in the same case as ὑμῖν, though it refers to the same subjects ; is acc. before *ἑμβαίνειν*, and governs *ὅπλα* ;

οἷα περ, such as, relative and acc. by ἔχομεν, enter into the same danger with us.

καὶ ἂν, and if; ἂν, is, if; and if anything fair and honourable happen, to be worthy of the same honours with us.

τῶν ὁμοίων ἡμῖν ἀξιόσθαι, ἀξιόω, ὡσω, to think worthy, pass. inf. with gen.

16. τὸν μὲν οὖν πρόσθεν χρόνον, as to the former time; κατὰ governs the phrase; or simply, noun of time in acc.

ὑμεῖς τε . . . κ. π. λ. ye and we were; ἦτε, 2 pl. imp. ind. of εἶμι.

καὶ εἴ τι, and if at all, if in anything, if ye really were the inferior of us in using these things there was nothing to be wondered at.

χείρους, nom. pl. masc. to ἦτε, as subj. of, taking gen. and inf.

ἐπιμελεῖσθαι, inf. pres. of ἐπιμελέομαι, εἰσομαι, I cultivate, take care of.

ἐν δὲ ταύτῃ τῇ ὅπλῃ, but in this armour we shall have nothing better than you have.

προΐξομαι, I have before, excel, acc. and gen.; προ, in compos. seems to take gen., and verb governs acc of neut. adj.

ἀρμόζων, part. nom. masc. of ἀρμόζω, ὄσω, I am filthy; ἐκάστω, by ἴσται.

εἰθίμεθα, 1 pl. perf. pass. of εἰθίζω, εἰθίσω, εἰθίκα, εἰθίσμαι, I am used, accustomed, which we shall all be used to carry.

μάχαιρα, it was; κοπις, in first enumeration of warlike articles, in same place; see par. 9.

ἥ, relative fem. sing. dat. of ὅς-ῆ-δ, with which.

δεήσει, imp. fut. it shall be necessary; παῖειν, to smite; inf. pres. of παῖω, ἥσω, I smite, and acc. τοὺς ἐναντίους.

φυλαττομένους, acc. pl. masc. before παῖειν, as subj. that we guarding, nothing fearing.

μή τι . . . κ. τ. λ. . . μὴ, least, we miss what we are striking.

ἐξαμάρτωμεν, 1 pl. subj. pres. of ἐξαμαρτάνω, ἀμαρτήσομαι, to miss aim, err, be at fault.

17. τί οὐκ ἂν . . . κ. τ. λ. as to what then can one of us differ from the other, in these, except in daring.

ἕτερος, ἑτέρου, . . . ἕτερος, nom. to διαφοροί, differ; ἂν gives idea of possibility; ἑτέρου, gen. by verb; ἡμῶν, gen. pl. by ἑτέρου, one differ from the other of us.

πλὴν, but; and makes limitation in nothing else; used for ἀλλὰ.

ἣν οὐδὲν ὑμῖν, . . . κ. τ. λ. which it concerns you, nothing less than us, to cherish.

ἣν, fem. sing. acc. of relative, ὅς-ῆ-δ, agrees with τόλμῃ, by rule of relative in gen. num. pers. not case; ὑποτρέφεισθαι governs the dat. and the inf. by the impers. προσήκει οὐδὲν adv. and acc. by κατὰ, in no respect.

νίκης τε γὰρ ἐπιθυμεῖν, for even the desire of victory, i.e. to desire victory. This clause is used as a noun; νίκης, gen. by ἐπιθυμεῖν, verbs of desire take gen. This seems to be the subject, to προσήκει.

ἥ relates to νίκης.

κτᾶται, 3rd sing. pres. ind. of κτάομαι, κτήσομαι, κέκτημαι, I acquire, possess.

σώζω, σώσω; σώσωκα, preserve, keep; which acquires and preserves, all the honourable and profitable.

τί μᾶλλον, how does this (the desire of victory) concern us more than you.

18. τέλος εἶπεν; in conclusion, he said, τέλος acc. by κατὰ.

ἀκηκόατε, ye have heard; perf. ind. 2nd pl. of ἀκούω, ἀκουσόμεαι, perf. ἀκήκοα, I hear.

ὁ μὲν χρεῖζων, he who wishes; χρεῖζω, χρήσω, to want, need, wish.

λαμβάνεται, imp. 3rd sing. act. of λαμβάνω, λήψομαι, I seize; imp.

λαμβάναν-έτω-έτων-έτων-έτε-έτωσαν or ώτων, and takes. acc. here.

ἀπογραφέσθω, imp. 3rd sing. of ἀπογράφω, γράψω, γίγγραφα, γίγγραμαι, register, enrol; imp. ἀπογραφοῦ-έσθω-έσθον-έσθων-έσθε-έσθωσαν or έσθων, used here in middle voice, I cause to enrol.

πρὸς τὸν ταξίαρχον; προς, before, or in presence of, with.

ὅτῳ, Attic for ὅτινι, whoever; dat. of ὅστις, ἥτις, ὅτι, governed by ἄρκει, impersonal, it pleases.

ἐν . . . χώρῃ εἶναι, to be in the station, position, or rank of; χώρα, ας, country, soil, place, station.

καταμενέτω, 3rd per. imp. of καταμένω, μενῶ, I remain.

ὑπηρέτικοις, dat. pl. neut. of ὑπηρέτικός, ή, όν, servile.

19. εἰ παρα καλούμενοι, if being summoned; arrange what follows thus, μὴ θελήσουσι, ποιεῖν ταῦτα, ὥστε, on condition that, with inf.

τυγχάνειν, to aim at, obtain. They be unwilling to do these things, that is, use these things, on condition that, striving, they obtain an equal share of the same.

οἷστε is joined to inf. when means, as in translation. See Jelf, vol. ii. sec. 863, obs. 3.

τυγχάνω, τεύξομαι, I obtain.

ἐθελήσουσι, 3rd per. pl. fut. of ind. of θέλω or ἐθέλω, θελήσω or ἐθελήσω, I wish, am willing.

τῶν αὐτῶν, by partitive sense of ὅμοια.

πονοῦντες, nom. pl. part. agreeing with subj. of ind. verb.

δικαίως ἂν διὰ παντὸς τοῦ αἰῶνος κ. τ. λ. justly would they spend their lives, in all time coming, in anxious care and difficulty.

ἂν is joined to the inf. wherever it may be used with finite verbs.

βιοτεύω, εὔσω, to spend one's life, live. Vide Scapulæ.

ἀμυχάνα, ήσω, to be perplexed; that which comes from want of counsel and reason.

διὰ παντὸς . . . through the whole period of life; αἰῶν, αἰῶνος, is not unlimited time, but fixed, yet uncertain period, as each man's lifetime is, indefinite time.

20. ἐν ᾧ, in what time.

ὅς, ή, ό, who.

προσείναι, to approach; inf. pres. of προσείμι.

Παρήσαν δὲ οὐδέπω, but not yet present; παρήσαν, 3rd pl. imp. ind. of παρείμι, έσομαι, I am present.

ἐν τούτῳ, in this time.

τῶν μεθ' ἑαυτοῦ εἰς ἰσχυν, of those with him up to strength ; ἰσχυς, υος, ἡ, strength ; ἀσχεῖν and διδάσκειν are governed by ἐπιτεράτω.

21. and first receiving servants from ; πρῶτον, adv. λαβών, 2 aor. part. nom. sing. of λαμβάνω, λήψομαι, I take, receive.

παρὰ, from beside ; denotes motion from, with gen.

ὑπηρετάς, acc. of ὑπηρετής, ου, a servant, assistant, governed by λαβών.

προσέταξεν . . . κ. τ. λ. he ordered to furnish all things ready made to each of the soldiers sufficient of what they wanted.

παρασχεῖν, 2 aor. inf. governed by προσέταξεν ; πάντα πεποιημένα, accus. after inf. and pl. perf. part.

ὧν is relative pl. neut. and gen. by ἐδέοντο, verbs of want take gen.

ἐδέοντο, 3rd pl. imp. of δέομαι, I want, δεήσομαι, δεδήμαι.

τοῦτο δὲ κ. τ. λ. by providing in this way ; τοῦτο points to no single word of the former sentence, but to the action of it.

ἔλελοίπει, 3rd sing. 2 pluperf. of λείπω, λείψω, λείλοιπα, I leave.

οὐδὲν . . . ἄλλο, ἢ, he left nothing else than ; ἄλλα, comparative, nothing other than ; ἀσχεῖν, to practise ; τὰ, the things ; ἀμφὶ τὸν πόλεμον, about war.

ἐκεῖνο δοκῶν, καταμαμαθήκεναι, thinking that he had learned this.

δόκεω, δόξω, I think ; καταμαμαθηκέναι, inf. perf. of μαθαίνομαι, μεμάθηκα, I learn.

ἐκεῖνο, acc. neut. and pointing forward to the thing learned ; introduced by ὅτι.

ὅτι οὗτοι . . . κ. τ. λ. that those men are best in each thing, in their several works.

ἵκαστα, supply κατὰ, γίγνονται, 3rd pl. pres. of γίγνομαι, γενήσομαι, I am, become.

οἱ ἄν, who-so-ever ; ἀφήμενοι refraining from ; τοῦ . . . προσέχων, the giving, turning ; ἀφήμενοι, part. of 2 aor. of ἀφίημι, ἴσομαι, 2 aor. ἀφίμην, or εἴμην, part. ἀφήμενος ; perf. εἵμαι, I dismiss, refrain from ; with gen. of inf.

πολλοῖς, dat. pl. neut. by προσέχων.

τὸν νοῦν, give attention to ; mind to.

ἐπὶ ἐν' ἔργον . . . turn to one work ; ἐπὶ, with acc. ἐν, of εἷς, μία, ἓν, one ; τρέπωνται, 3rd pl. subj. 2 aor. of τρέπω, τρέψω, I turn ; 2 aor. ἔτραπον, I turned.

καὶ αὐτῶν . . . κ. τ. λ. and having taken away from them belonging to war the caring for the bow and javelin.

περιελών, part. 2 aor. of περιαιρέω, αἰρήσω, ἤρηκα, I strip from, divest ; 2 aor. εἶλον ; περιελών, I govern ; acc. of inf. τὸ . . . and αὐτῶν.

τῶν πολεμικῶν is partitive genitive ; a part of warlike implements, not all ; only bow and javelin.

μελετᾶν, inf. of μελετάω, ἴσω, I care for, exercise ; τόξῳ, instr. dat. ἀκοντίῳ, same case.

κατέλιπε . . . κ. τ. λ. He left this only to them ; κατέλιπε, 3rd sing. 2 aor.

τοῦτο μόνον ; Dem. points to what follows ; acc. namely, force of τὸ, to fight with, &c. . .

REV. J. S. SMITH, B.A.

To be continued.

## SOME REMARKS TO CORRESPONDENTS.

WHILST this number has been going through the press, we have received from various sources communications relating to a pamphlet which is being widely circulated by a well-known agent. We have been able to find room for one letter upon this topic (*vide* correspondence), and we hope in our next number to have its contents discussed at greater length. A gentleman is preparing an article upon the subject of agencies, and we should be glad if those correspondents who possess any knowledge regarding the said subject would communicate with us at the earliest possible moment. The remarks of correspondents, and the careful perusal of the pamphlet, forcibly recall to our mind the following fable :—

“Once upon a time the Vampires met in solemn conclave to deliberate upon momentous subjects. The genus homo, upon whose succulent juices they were in the habit of feeding, was fast disappearing from their borders. After some six weeks of fierce debate the following resolution was carried unanimously—‘That a pamphlet be issued—for it is well known that Vampires are learned in all the tongues and arts of allurements—setting forth in sounding words and sonorous phrases the geniality of their climate, the excellence of their laws, their kindness and consideration for the genus homo.’ The pamphlet at length appeared, and full it was of promises, but the utmost stress was laid upon the fact that so great was the interest of the Vampires in all that related to the homo tribe, that actually certain officials were set apart whose duty it was to seek the resting-place of the homo, and as soon as night spread her mantle upon the kingdom, to stir the sluggish atmosphere by the movement of their wings, and bring sleep upon the favoured race.

“Notwithstanding the special pleading of the pamphlet, the instinct of the homo led it to take precaution against the Vampires and save itself from the clutches of its would-be protectors. One word—*it was during the period of sleep that the Vampire feasted upon the life-blood of the homo.*”

We do not know if the author of the article reprinted and circulated by Mr. Bisson thinks of catching the scholastic homo asleep. If we could pry behind the scenes, or, even as it is, we think it needs no prophet to foretell that the article in question was concocted by a gentleman who is now himself an agent, whatever he might have been when he penned the lines in question. The old adage will thus be exemplified—“Self-praise is no recommendation;” we are sure the article gives credit to no one. It is a genuine sample of the golden shield, and reflects the exaggerated opinion of an interested party. One more word; if these gentlemen (the agents) so study the peculiarities of their respective employers, how is it that assistants frequently answer one or two hundred applications before meeting a suitable principal? In fact, we have known a gentleman (a thorough teacher) answer several applications daily for two months and then fail to make an engagement. These applications, to the best of our belief, were sent from somebody’s agency office. It is an undisputed fact that the

agency system as at present conducted is a disgrace to the scholastic community, and a discredit to a civilized country. We speak strongly where we feel strongly; we hate to see the despicable fashion which pitches upon the weaker vessel to pay all costs, and flatters the stronger party by which alone it lives and thrives. Directly the agents charge *half* the expenses upon the principals their occupation is doomed. But we will leave this discussion for another paper, meanwhile again asking for information to be sent as early as convenient.

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### THE EDUCATION BILL.

THE New Year commences a period fraught with interest to all who feel the least interest in primary education. Since our last issue a number of towns have elected their representatives for the School Boards. As these proceedings have generally been pretty fully reported in the daily and weekly papers, it would be waste of space to write at length upon the subject here; what we have now to do is to watch carefully the working of these Boards, report upon them from time to time, and suggest improvements where failure seems greatest. Extraordinary activity has been shown by the Church party to establish elementary schools wherever there is not sufficient accommodation. It is said, with *what* truth we know not, that more applications have been made for grants during the last four months than during as many previous years. As we stated in our last number (*Educational Record*), if bigotry and caste do not get the upper hand, the welfare of the children only being looked at, there need be no fear as to the working of the Boards. It may not be out of place to mention that some analysers of the Bill read that uncertificated masters and mistresses may earn the grant. We see no reason why this should not be the case, provided their schools are as efficient as those conducted by certificated masters and mistresses; at any rate some provision must be made for uncertificated teachers; they are receiving or have received notice to quit wholesale, a premature act upon the part of managers which may lead to future regret.

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### CORRESPONDENCE.

*[Although responsible for the insertion of the following communications, the Editor does not necessarily agree with all that is stated therein. Nevertheless he does not feel justified in simply inserting such notices as agree with his own opinion, but wishes to give fairly and without bias the opinions held by different members of the profession. A vast amount of good must ensue from the consideration of various questions intimately connected with the well-being of all engaged in tuition. The Editor, therefore, will be glad to receive any communications upon subjects connected with scholastic affairs, and if of sufficient importance will insert them in future issues of the Journal.]*

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### SCHOLASTIC IMPOSTOR.

*To the Editor of the "Quarterly Journal of Education."*

SIR,—Will you allow me to avail myself of a corner in your popular periodical to warn my fellow teachers against a person who has been for many years pursuing a career of fraud amongst heads of ladies' schools.

A tall, loud-voiced man, with a plausible manner and much assurance, calls without introduction, sends in a card with four initials before his name and "F.A.S.L." (whatever that may mean) after it, and producing a mass of testimonials, obtains leave to lecture to the pupils. His performance is neither

very learned nor refined ; but it is rather amusing, and pleases a certain class of minds. For this he receives a guinea, and departs. An hour afterwards a note arrives, stating that he has lost the money, and begging the loan of a sovereign, which he promises faithfully to return, but which never appears.

A second form of fraud is his receiving payment in advance for correcting papers, a duty which he frequently fails to discharge.

A third trick is obtaining money for *his works* (!), but they are probably out of print, as the subscribers ask for them in vain.

The fourth is his offering for a handsome *douceur* to introduce pupils, who, of course, are on their way, but never arrive.

I have proofs of all these in letters now before me ; but ladies submit to the loss rather than incur the annoyance of exposing this heartless swindler.

#### THE FRIEND OF SEVERAL VICTIMS.

#### SCHOLASTIC REGISTRATION ASSOCIATION.

*To the Editor of the "Quarterly Journal of Education."*

SIR,—A Special Meeting of the Committee has been held, at which the subjoined resolutions were carried unanimously. Several other ladies and gentlemen were present.

"That this Committee suggests to the Right Hon. W. E. Forster, M.P., the desirableness of adding a clause to the Endowed Schools Bill (No. 2), providing that no person be admitted into the public service or into Government Schools of higher or special Education, without having passed an examination under the authority of the proposed Educational Council ; and that the class of certificate obtained be taken into account when deciding the branch or grade of the service or the school for admission to which its holder may compete."

"The Committee is of opinion that the baneful influences of 'cramming' might be checked by requiring all candidates for the public service to have gone through a good course of mental training and discipline."

"That this Committee suggests to the Right Hon. W. E. Forster, M.P., the desirableness of providing in the Endowed Schools Bill (No. 2) for the encouragement of (a) the Study of the Science and Art of Teaching, and (b) the Professional Training of Persons for the office of Teacher in other than Primary Schools."

"That persons favourable to the objects of this Association be specially invited to contribute to its funds, and that the names of such donors, with the amount contributed, be appended to the List of Members."

A letter was then read from the Manchester Board of Schoolmasters, inviting the Committee to hold a conference at Manchester, in the second week of January. The invitation was unanimously accepted.

Twenty-five gentlemen have been appointed Honorary Local Secretaries.

#### MONTHLY JOURNAL.

*To the Editor of the "Quarterly Journal of Education."*

SIR,—I am glad the idea of a Monthly Journal has been mooted. You have a world full of prejudice and bigotry to write down, and it will take you all your time to do this even with a monthly journal. The English are so very fond of prescription, but when this prescribing is carried too far it is all humbug. Why should human beings above all others stick to what is old, when what is new better serves our purpose? We are made to progress, to go on developing ourselves till we arrive at perfection. It is so with everything else in nature. The world is continually undergoing changes, and always has undergone changes ever since it was created, and always will to the end of time. What suited the condition of nature at one period of its development would not suit it now. So with nations and individuals. We



must come to perfection by degrees, but retrograde never, nor keep at the same standard. A boy is not a man, but he grows into a man. A nation is not made great in a day, but it grows great in time. What will suit a baby will not suit a man, nor will that which suits a nation in its infancy suit it when it has become a power in the world. A love of the old beaten tracks puts the drag upon England's progression. We have resources sufficient to last for ever, but it has been at the peril of the nation to develop them. Look how the people protested against the use of machinery, how they tried to drive the most humane inventions out of existence. Who that knows the history of the spinning-jenny, the cotton-loom, does not call to mind how these merciful inventions had once to struggle hard for existence? How they were cursed, and hated, and smashed by the very people who were to profit most by them. So it always will be if we can judge from the past. Our race seems to be peculiarly jealous of any innovation on the ways of our forefathers; but all in vain. The most useful and rational prevailed, as it always will prevail. Whoever lightens the curse of labour is the greatest benefactor of his species, next to him who lightens the curse of pain. Whoever in the least tries to bring the world nearer to the perfection that pervaded it in the garden of Eden serves best his own kind; no matter in what direction his efforts tend, whether they be to lighten mental or manual labour. He who gives the muscle more of ease and the brain less of stretch, and yet produces the same or better results, lengthens the life of man. What we most want to know is how to get through this world in the best and easiest way. We are cursed with a bitter curse, and this curse we want to make as light as possible. We want to know the means of passing through this life comfortably, and how to prepare in the best manner for the next. You are making laudable efforts in one direction, that of easing the mind, the brain—the most delicate part of our organization. You propose that we should find the best way to teach that which should be taught, and then adopt it in spite of everything and everybody. Quite right. Be not turned aside to the right hand or to the left. If in your head, or from any other source, you have got ideas of a better system of education than the one now in vogue, by all means lay it naked and bare before the public. Heed not scoffers, despisers, and contemners; they are nobody, at least they will turn out nobody if you only persevere. There always was opposition in England to anything new, and there always will be. No matter, there is no harm done by opposition if only the innovator will persevere. It is the fear of speaking out that has kept the world so long in darkness. "Why should we be subjected to anybody's opinions?" says the world. "Is not one opinion upon any subject as good as another till it be found to be worse?" Of course it is. Let us have from time to time opinions on education such as those propounded by A. R. HOPE and others of your correspondents, and in time such a revolution will be accomplished as to create surprise and wonder in all who behold it. Strictly speaking, there is no such thing as a proper system of education in England. Perhaps there never will be. No matter. Let us have the best system we can get. Your efforts are all in the right direction. Do not be down-hearted; a mighty legion will be at your back to help you. You can command success if only you are determined, and provided you are going the right way about it. Education is one of the greatest properties belonging to man, and one that demands a great deal of attention, for without education we cannot get well through the world, an object which is, or ought to be, the chief object of every individual in it.

By nature we are the most helpless of creatures. We are left, so to speak, to fish out, in the best way we can, what is needful and necessary for our bodies' as well as for our souls' welfare. When, therefore, anybody finds out a better way of doing a thing, it is simple madness not to adopt it, and at once. We have to make experiments. In fact our whole existence is one of

experiments. We are not so endowed as to be capable of knowing intuitively which is the best way of educating the rising generation. For man's sake let us have more opinions on this educational subject in your next issue. In fact as many as you can get—a *Journal* full if you like—so that your periodical may not belie its name. There are plenty of different opinions, floating about, on the subject; they only want gathering together to be of use, and if you can bring them before the public they will stand a chance of obtaining the favour they are worth. But I am taking up too much of your room, I fear. Pity you are so restricted in means and space. What a world we live in, to be sure! When a fellow wants to help his fellow man there is always some obstacle in the way. I hope, though, that the profession will begin to see the good of patronising you, and that it will thus enable you to befriend it more and more.

J. B.

### AGENCIES.

*To the Editor of the "Quarterly Journal of Education."*

DEAR SIR,—Enceladus is turning his unwieldy body, and the Etna of the scholastic profession gives forth signs of internal movement accordingly. It seems, too, that that classical gentleman has ample reason for his present uneasiness. Some deplorable evils have had an airing in your columns, and that which I shall submit to your consideration is by no means the least.

Bad schools are great evils, but bad schoolmasters are worse, since the latter make the former.

If anybody doubts the existence of Dotheboys Halls, a few facts from your humble servant will serve at once to dissipate his doubts and rouse his righteous indignation. I have, however, no hesitation in saying—and I feel bound to make it known—that in my own experience, where I have met with one bad principal I have seen two bad assistants. This is the deliberate conviction of an assistant himself, grounded on some years' experience in public and private schools. I am convinced, however, that logomachy is not our best policy. This is more than likely to originate a very undesirable state of feeling among men of a common avocation whose interests are bound up together, and who ought to unite with Germanic reality both to better the condition of their own order, and resist the advances of their parasitical friends. Mutual recrimination profiteth nothing. Let us remember the advice of Hermocrates to the Sicilians: "Ἀ γρή γνόντας, καὶ ιδίωτην ιδίωτη καταλλαγήναι καὶ πόλιν πόλει, καὶ πειρᾶσθαι κοινῇ σῶζειν τὴν πᾶσαν Σικελίαν; κ. τ. λ.\*"

Let principals treat their assistants as gentlemen, and let assistants regard the property and interests of their employers as if their own welfare depended upon the preservation of the one and prosperity of the other.

Good principals do not dislike studious assistants provided their studies are generally subservient to their efficiency as teachers. In fact, principals who are themselves well educated for the profession will be ready to render all the aid, in this respect, they can to their masters. Let assistants prepare for some examination if possible, in order to have their progress thoroughly tested and their attainments registered. If the London University examinations are too severe or too extensive, I know of no institution so well adapted to meet the requirements of such as the College of Preceptors, where candidates choose their own subjects, and get credit for one if they pass in it.

Let us give and take. Let us not be always talking of the Iscariots, forgetting the Peters, the Johns, and others, "good men and true."

\* Thucydides, book iv., chap. 61.

There is, I think, one point of agreement amongst us: the sooner we can do without "agencies" the better. If we must have an agency, let us do the work ourselves, and we will both do it cheaper and get the profits. To say nothing of the very doubtful reputation of some of these agents, the way in which the money is "screwed" out of the assistants excites the surprise and commiseration of everybody who is acquainted with them. The agency conducted by the College of Preceptors is exceptional, for it is in the hands of a corporative body of professional teachers. The reduction of the fees for non-members would render it a real boon to assistant masters.

Let us take an imaginary case for the sake of illustrating the evils of the present system. A principal requires an assistant. It is not convenient for him to come from home; consequently, relying on the advertisements in the *Times* and other journals, he writes to the London agent, who is considerate enough to inundate him with applications of candidates for the appointment. Two out of three of the applicants are at once rejected; these generally never hear from the gentleman in question, and so are kept in suspense for a week or so, because they are absurdly unsuitable. After some deliberation a selection is made, and the successful candidate has to pay at once the twentieth part of his first year's salary to remunerate the agent! for what? This is not all. A few weeks' trial proves either the unsuitability of the assistant or the worthlessness of the school, and the engagement is at an end. The principal applies again, expending another stamp. The assistant applies again, and his success costs him two, three, four, or five pounds, as the case may be. That this engagement should terminate in a short time is a very possible contingency, and the farce is played again. How many actual instances are there like this? Let those who can reply. Principals, will you help us to remedy this disgraceful state of things? You can do so, and you ought. Let us hope that you will.

I am, &c., THOMAS MITCHESON.

### PUFFS AND PUFFING.

To the Editor of the "*Quarterly Journal of Education*."

SIR,—A new era has been inaugurated, and more elaborate methods invented by the ingenuity of puffers, who wish to get rid of their wares. A copy of a contemporary publication has been forwarded to me by an esteemed friend, in which, amongst other information (not altogether invaluable), I find a letter purporting to be written by a principal. In this letter egotism reigns rampant, the cry is, "I am not as other men are!" "My school is a model to be copied by all others in the land." The writer says, "Every year I send up pupils to the University Local Examinations, and by their success *have shewn my ability to teach*, and have gained the complete confidence of the parents of my boys." (The italics are mine). He continues, "As soon as the subjects of examination for the year are known, I set the *smartest* of my boys to work without delay, and as *I and my assistants give almost our whole time to these special studies, I seldom have a failure*. Last year, out of a school of fifty boys, I had one senior and three juniors. One candidate indeed was unsuccessful." That is, in a school consisting of fifty pupils, *forty-six* are almost entirely neglected to push on a few of the *smartest* boys, in order to get a name to the school. Can this be true that a man shall pride himself upon passing six per cent. of his boys? Why a National school-master would be disgraced if in a proportionally as hard examination, he did not pass ten times as many. But further still, the *one* failure was not the fault of the master, but of the parent. The strain continues, and the climax is reached in "I think it only right to advertise these results as widely as possible, and *give parents an opportunity of choosing a schoolmaster whose*

*ability has been put to the test.*" Who can read such rhodomontade as this, and believe that we live in the nineteenth century. But finally our writer says, "I may add that I receive clever boys likely to pass the examination at reduced terms." Dear me, it almost takes one's breath away; how very generous of A. B. to do this.

Will your readers believe that the above extracts are taken from a letter *inserted* in an educational periodical? H. L.

### SCHOLASTIC AGENTS.\*

*To the Editor of the "Quarterly Journal of Education."*

SIR,—A well-known scholastic agent has lately forwarded to his clients a pamphlet professing to be a reprint of an article from "The Rectangular Review," whatever that may be, and seeming to be a gross puff of his own business. This article is a glorification of, and every now and then runs into an apology for, the work of scholastic agents, and in it are made either directly or by inference the following statements, which the agent in question may be considered as endorsing, by the fact of his republishing the pamphlet, and using it as an advertisement.

1st.—That it is an agent's constant labour to obtain a full knowledge of the character and attainments of all his clients, and that in introducing assistants he anxiously considers their probable fitness for the post, and the fitness of the post for them, bearing in mind the circumstances and peculiarities of both parties.

2nd.—That an agent is chiefly supported by the better class of schools, and would rather have nothing to do with the inferior class of schools, *which, the writer forgets to mention, change masters more frequently.*

3rd.—That an agent has special capabilities and facilities for determining the moral and social character of foreign masters.

4th.—That an agent exercises the same conscientiousness and thoughtfulness in recommending pupils to schools, and to that end makes himself acquainted with the condition and performances of his clients' schools, as well as, in some cases, with the character of the proposed pupil.

5th.—That an agent professes to undertake the estimation of the learning in which he trades.

I should very much like to know the opinion of your readers on these particular points, and on the question of agency generally. I am at present in doubt whether an "eminent" scholastic agent is one of the greatest of human benefactors, or one of the greatest of \* \* \* \* \*

I am, &c.,

JOHN SMITH.

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## OUR SCHOOL BOOKS.

### INTRODUCTORY.

I.—IT is my intention to give under this heading some idea of the various series of school text-books, pointing out at greater or lesser length their various peculiarities, and endeavouring to show the distinctive worth of the series collectively—sometimes of single works belonging to the series—as aids to education. So far as I am able to gather, no attempt of this kind has ever been made; and thus I shall make an effort, however unworthy the result may prove, to fill a void in our educational literature. I shall endeavour to ascertain the views of other eminent men belonging to the profession, and have no doubt that the practical experience thus recorded will not prove entirely useless. Various causes over which the majority of authors and

\* The Editor would be glad if correspondents would write as soon as possible.

publishers have no control tend to lower the standard of educational literature. It will be best, perhaps, to consider the most prominent of these causes in this introductory paper, and point out means by which the system might be reformed. The bugbear to which I allude is the existing examination mania. I will not deny that rightly conducted examinations would tend to raise, not lower, the standard ; and in fact the present execrable system has caused a great influx of better books, but the system does not allow for expansion, the standard cannot be raised to the highest point of excellence. The vast majority of works are written specially as aids to assist the student in cramming a certain specified subject so that he shall be able to pass some particular examination. Now every examination differs to a certain extent from any other examination, and text-books are therefore required to point out and elucidate these differences. For example, one is told that it is almost imperative to use Buckmaster's Chemistry in preparing for the science examinations, whilst Miller's, Williamson's, Gill's, or Barff's works upon the subject, although admitted by competent authorities to be the best of their kind, are kept in the background. On the other hand, in preparing for the London University examinations it is better to use the latter works. Why is this? Why cannot either book be used for either examination without endangering the chance of the student's success? Simply because each of these examinations deals with special subjects. Frequently, again, an examiner writes and publishes a text-book, and of course he has a predilection for the peculiarities of his own offspring ; and by so framing his questions that a knowledge of *his* book is necessary, he increases its sale, and thereby the balance at his bankers'. I do not mean to infer that a professor should not write ; let him utilize his talents by all means, but still let him act honourably towards his brethren, and so frame his questions that they may be answered from any good work upon the subject. The various examining bodies should bestir themselves in this matter, it being scarcely honourable in them to connive, however indirectly, at such a system. It has been said that examiners have an immense power in their hands. It rests entirely with them whether a work shall be a success or a failure, whether an author shall gain a competency or be ruined. Is it just that this should be the case? However able a man may be, is he to be at the mercy of examiners? is the sale of his work to depend upon their whims? But how can any alteration be made? Very easily. With one or two exceptions no examination should deal with specialities. These exceptions should consist entirely of languages ; thus, a student whose future life is to be spent in India should undergo an examination in the particular language spoken there ; if in Germany his knowledge of German should be tested ; if in France his French, and so on. The average attainments of students, say at the age of sixteen years or seventeen years or eighteen years, ought to be ascertained, and any examination at these ages should consist of tests as to their ability, not tests as to the amount of cramming specified subjects they had undergone.

Under present circumstances nearly every examination requires a knowledge of some special book in Latin ; would it not be possible to adopt some such plan as this : say at sixteen years of age a boy ought to have a tolerable knowledge of Cæsar, at seventeen years of age of Virgil, at eighteen years of age Livy and Cicero, and so on? Now supposing boys aged respectively sixteen, seventeen, and eighteen years to be presented at an examination, what would be more easy than to give for translation three extracts from different authors? If the one aged sixteen years translated Cæsar well, and the one aged seventeen years translated Virgil badly, the inference would be that the former was the better of the two ; if the three did the translation tolerably well, we should infer that in proportion their attainments were pretty equally balanced. This plan would answer at a competitive examination. Generally

speaking the attainments of a boy aged sixteen years would be contrasted with those of another boy of a similar age. However, this is a question which at present cannot be fully discussed.

Scholastic authors cannot utterly ignore the examination system, and hence many of our school-books are cramped and restricted by bonds which will not give way. This, then, is a slight review of the position of school literature, and may be summed up in the words, "Every book is written as an aid to some examination." A statement such as this is made frequently in the preface of the work, and it is with the knowledge of this that the books must be criticised.

II.—For the purpose I have in view, all our school books may be divided into,

1. Books intended for beginners,
2. " " pupils from 8 to 12 years of age.
3. " " " 12 to 17 "
4. " " advanced students.

These may again be divided and subdivided into nearly as many classes as botanists divide plants, or geologists divide rocks. It may be asked whether the time given to the classification of books is not entirely wasted, but I cannot suppose that any one engaged in the work of education would think of answering in the affirmative. In all other professions or trades the workman has first to learn the use of the different kinds of tools, and it is only after long and arduous trials that he is able at once to select the best tools required to accomplish a delicate and elaborate piece of work. He knows that success frequently depends not upon his undivided efforts, but upon the temper of the tools he works with, and he spends much care and labour in keeping them at their highest pitch of excellence. How much more delicate and elaborate is the work to be done by the teacher ; to me it is the greatest, the noblest work a man can have ; and just as the carpenter cannot turn out good work without good tools, neither can the dominie turn out good scholars without the aid of good books. The better these aids the easier the task ; and I hold it therefore all-important that he should keep himself well acquainted with everything that goes on in the publishing world, so that if better tools are made he may be ready to adopt them. Yet it must not be supposed that "books" are everything to the teacher. They should be looked upon as supplemental to his own earnest *vivâ voce* teaching. Rest assured that however excellent the "aids" may be, unless they are handled by a master's hand, the work will be marred, even if it be not entirely spoiled. There is already too much dependence placed upon books, and the master frequently puts the most laborious work from off his own shoulders to rest upon a rotten staff, the books.

I have already exceeded the limits of an introductory notice, and would only state that any information upon the subject of our school books will thankfully be received by the Editor. In my next I shall endeavour to give some account of the origin and specialities of the "CLARENDON PRESS SERIES."

We have received several numbers of CASSELL'S HOUSEHOLD GUIDE, a monthly periodical, price 7d. As a repertory for domestic information it has no equal, indeed no rival. Its contents include excellent articles upon every household want, from the making of clothing for children to the most elaborate and costly acquirements of decorative and kindred art. The woodcuts and coloured plates are far above average merit, and we shall not speak too highly of this work when we say it is worthy of a place in every house in the kingdom. We would strongly advise its introduction into every school,

and more especially every young ladies' school, in the land. Lessons upon any domestic or culinary art could be learned from its pages, whilst ample provision is made for the lighter moments of life, by giving chapters upon various amusing subjects.

*Murby's Consecutive Narrative Series.* "Hubert Preston at Home and Abroad." A continuous Narrative, graduated in Six Books, for use in Schools. (Books 1—3.)

We have long felt the want of reading-books, which, by telling interesting narratives in easy words, would make learning to read less dull for children. In this series we had hoped to find exactly what we wanted, but are again doomed to disappointment. The form adopted is excellent, but the matter with which it is filled up is (to say the least), injudiciously chosen. We cannot agree with the system of filling the young mind with stories of giants and fairies, however good the moral which these stories may point. Children find it very hard, as it is, to resist the terrors to which their vivid imagination gives rise, and such tales as these will only be a new source of fright, without conveying any appreciable instruction. A child's imagination will be far more retentive of the fable than its mind will be of the moral. Again, the story of "A Panther Loose," has the same objection of tending needlessly to terrify the child who reads it. Since writing the above, we have received the concluding books, which seem to be free from the objections mentioned, and appear to answer in most respects our ideal; but we must defer the consideration of them to the next number.—MAGD. COLL.

*The Class and Home-Lesson Book of Geography.* Price 6d. By F. YOUNG. T. J. Allman.

WE hope the publisher of these excellent little works will find it advisable to greatly extend the series, and give us first books similar in plan, treating of every conceivable subject. Children enjoy reading if only that reading can be adapted to their attainments, they delight in gaining knowledge if only that knowledge be imparted to them in a right way. We cannot say that this book is as good as the "Class and Home-Book on History;" the subject cannot be so easily rendered, yet, with the exception of the "Dates to be Remembered," which should be taken out if a second edition is called for, it will be found very suitable for those young folk who are just beginning to learn something of geography. The examination papers given at the end will prove of great service in testing the knowledge acquired by reading the text.

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## OUR BOOK-SHELF.

*Praxis Primaria. Progressive Exercises in the writing of Latin, with introductory notes on Syntax and idiomatic differences, and an appendix on Latin Style. For the use of Junior Students.* By ISLAY BURNS, D.D. London: Blackie and Son.

WE need make but little pretence of criticising Dr. Burns's scholarship; he is probably better able to criticise us. But we may offer a short description of his book to those of our readers who have not yet met with it. Some who happen to be engaged in learning or teaching Latin composition may like to prove, by working with it, how far it answers its purpose.

It has the merit of not being a big book, containing only about seventy pages in all. Its appearance is very much in its favour, being

neat and indeed elegant. Its form and arrangement seem clear and convenient, and it is free from unsightly printing and from perplexing references. Having made these general remarks, we may go on to describe its contents more particularly.

As an introduction we have a few pages of "Notes on Syntax," containing rules for the use of the conjunctive mood, for the *oratio obliqua*, &c. This portion of the book, it should be remarked, is not intended as a substitute for a regular grammar, but as a sequel or appendage to it, the more elementary parts of Syntax being omitted, and the parts touched upon not being perhaps very methodically treated. Then follow *two* series of exercises, (Parts I. and II.), the first on the earlier rules of Syntax, for the most part on those *not* included in the "Introductory Notes," the second, which is as it were the kernel of the whole work, on "Critical points," that is to say, on the portions of Syntax treated of in the "Notes." This series of exercises has two subdivisions, those in the first being on the several rules taken separately, while those in the second are miscellaneous, and contain some sentences of a tolerable length. A few, but only a few "help-notes" to these exercises are given separately towards the end of the book. The next part begins with a long classified list of "Idiomatic Differences," the English and Latin idioms being placed in columns side by side. These are intended chiefly as an introduction to the "Longer Exercises," a set of pieces for connected translation, the first twenty-five being selected from Dr. Melvin's exercises, and being "so framed as to admit of being translated into Latin without much change in the form of the sentence or very great divergence from a literal rendering." The last twenty are ordinary passages for free translation into Latin, many of them having been set at university examinations. As a help to this or similar work, the book concludes with a short essay on "Style" (contributed by Mr. James Macdonald), in which an attempt is made to assist the learner in apprehending the essential differences between English and Latin thought and expression.

We may now venture to offer, with some diffidence, a few remarks and suggestions on different parts of the book. It may perhaps be open to question whether it was well to give exercises on the rules of Syntax *not* specially coming within the scope of the work, and for which references are given to grammars. They may perhaps be thought insufficient if used alone, and superfluous if made a mere appendage to some other exercise book. The exercises on "Prepositions and their Cases," however, may be excepted from this criticism, and might perhaps even be extended with advantage.

The *Latin* exercises in this portion of the work are still more open to objection; or at any rate short sentences from Latin authors, slightly varied if necessary, might have been given instead of those made-up ones about the "*luscina*."

For the reason already given, it would be unreasonable to expect perfect method or completeness in the "Notes on Syntax." Still, perhaps a fuller and more scientific treatment of the different forms of sentences, especially dependent sentences, might have been possible. But



why does Dr. Burns call the relative adverbs *ut, quum, &c., conjunctions*? There is scarcely more reason why *quum* should be called a conjunction than why the same name should be given to the relative pronoun *qui*. If the former connects sentences, so does the latter. Again, it is against all reason that *quum* should be one part of speech and *tum* another. It would surely be better to confine the name of conjunction to such words as *co-ordinate* words or sentences, and have no other office. We would of course apply this remark to English as well as to Latin grammar.

It might be possible to suggest other "idioms" for the "Notes on Idiomatic Differences." But we have no reason to suppose that the author has not done the best that could be done with his limited space. It might perhaps have been as well to explain that such a clause as the first in the sentence, which occurs in Ex. 29, p. 55, "*Whilst at Thessalonica*, Cicero resided in the house of Cn. Plaucius," would be somewhat different in Latin. The idiom is very common in English, and very likely to mislead. The peculiar use of *quum . . . tum*, or *tum . . . tum* nearly=*et . . . et* might have been noted, and something might have been said in the "Notes on Style" about that great feature in Latin narrative, the Historic Present. It was not possible, perhaps, to avoid the somewhat awkward device of "help-notes" to the exercises, and there are but few of them. In one useful note in this section, "*gregis Christianæ*" may have been admitted by inadvertence.

Some very good advice is given by the author about the use of dictionaries. He says that "the habit of using the dictionary, especially the *Latin-English* Dictionary intelligently, so as thereby to determine the precise meaning and force of words and idioms, is itself of great value. It is seldom safe to use a word, hitherto unknown to us, taken from the English-Latin list, without turning it up in the Latin-English side, and seeing how it is actually used by good prose writers. . . ." And again, either Dr. Burns or Mr. Macdonald recommends to the student, in translating the more difficult exercises, "if his reading has not been extensive," to have recourse to "a good *Latin-English* Dictionary, which, properly used, will furnish correct words and phrases." Would it not have been well to give a vocabulary for the *earlier* exercises in the book? A beginner would not know how to use a dictionary to advantage. Neither the English-Latin nor the Latin-English part would be of much use to him. When he came to the longer exercises he could begin to use the dictionary, as recommended in the extracts we have quoted. And before attempting these, or along with them, he would of course be *reading* Latin authors, and so acquiring a familiarity with Latin style which could be attained in no other way.

We shall not be thought to detract from the merit of this book if we say, in conclusion, that it is not suited for incapable teachers, or careless, or even stupid learners. Its use will require much explanation from the master, and much industry from the pupil. Some knowledge of grammar, and perhaps some practice in writing exercises will be necessary, or almost necessary, before the book can be begun at all. And in a set of exercises and explanations expressly intended to be

short and compendious, *difficulties* are sure to abound ; in fact it may almost be said to be made up of difficulties. But this may well be excused for the sake of brevity and conciseness, and short as this work is, the learner who can once begin it will scarcely need any other book in order to proceed gradually to the highest kind of Latin prose composition.

J. C. V.

*Lessons on Elocution and Reading for Girls.* By A. K. ISBISTER, LL.B. Longmans and Co.

THIS little work is divided into two portions, the latter of which contains a selection of extracts both in poetry and prose, excellently adapted for the purpose for which they are brought together. A very valuable feature also is that many of these pieces are marked for emphasis and expression. Unfortunately this work, like all others of its class, is founded upon a wrong principle. An erudite dissertation upon enunciation, expression, gesture, is prefixed, and the synthetical instead of the analytical method is pursued. The first great aim of the teacher is to interest his pupils, and this we feel assured he can never do by making them learn long tables of elementary sounds, substitutes for vowel elements, for consonant elements, labials, labic-dentals, lingua-dentals, lingua-palatals, &c. We should advise all who use this really elegant and useful book to *commence* with Part II., illustrating and explaining *vivâ voce* the technical points so elaborately explained in Part I. as they arise. Let the pupils learn a piece by heart, reciting it as if it really was their own composition, get them to imbibe some of the author's feeling, and then explain the terms used for the different modulations of the voice, &c.

C.

*The Health, Wealth, and Happiness* Series of popular Handbooks for Town and Country. Price 1s. J. BURNS, 1, Wellington Road, Camberwell.

WE intended to have spoken at greater length regarding these volumes, but the pressure upon our space is too great. Whatever the peculiarities advocated by them in opposition to vaccination, allopathy, &c., they deserve—especially that entitled *Simple Questions and Sanitary Facts*—great attention. The work mentioned above would prove of great service, if extensively used in our schools. A mass of information is supplied therein concerning the fundamental truths regulating health, &c., with which every man and woman ought to be acquainted.

*The St. James' Magazine* (F. E. Arnold, 49, Essex Street, Strand,) differs greatly from the majority of monthlies. Instead of being crammed with fictions—at least as far as we can judge from the number before us—the majority of its pages are devoted to well-written biographical notices of eminent men, interspersed with scientific papers.

*Plain Words* and *Church Record* (Moffat, Dublin,) may be ranked as quite equal to, if not superior to many of their so-called “theological” brethren. We are glad to see no signs of that extreme bigotry so generally found in books of this class.

*An Introduction to Animal Physiology, designed for the use of Candidates preparing for the University of London and similar Examinations.* By a B. Sc. (Honours) of the University of London, &c. 3s.

Too condensed to be used *alone*, but an excellent summary after reading the works of Dr. Carpenter or Professor Huxley.

*Ancient Classics for English Readers.* Vols. IV., V., and VI., 2s. 6d. each.

*Cæsar*, by A. TROLLOPE; *Horace*, by THEODORE MARTIN; and *Virgil*, by Rev. W. L. COLLINS, M.A. (Blackwood and Sons.)

IT cannot be doubted by any thoughtful man, but that this series is destined to play a more prominent part in the history of our literature than at first sight seems probable. The signs of the times point to a diminution of classical study, but with such a series as the one before us, the interest in classical lore will be increased instead of lessened. Many who would think it a sheer waste of time to learn Latin in order to read *Cæsar*, or *Horace*, will be glad to gain some knowledge of these authors, from the works above mentioned. We know that many eminent educationalists look with great favour upon these works; and we believe that it would conduce greatly to the pleasure, not to mention the knowledge of pupils, if this series was adapted by principals, as reading books for the higher classes.

#### MATHEMATICS.

I have several new books and new editions before me, which deserve a much more lengthy notice than can possibly be given. At the head of the number comes the 2nd edition of Canon GIRDLESTONE'S *Arithmetic*. (Rivington's.) An excellent work, which cannot be surpassed, as a text-book for the student, by any other publication. The school edition of the above I do not like so well as that of R. WORMELL, M.A., published by Murby. The latter, containing an extraordinary amount of information, as well as copious examples well arranged, is eminently fitted to become the first of our school arithmetics.—The 2nd edition of *Plane Geometry*, also by Mr. WORMELL, shows that the country is beginning to be aroused from its prejudice with regard to Euclid. That the latter is not suitable for beginners is certain, and just as certain is it that some such book as Mr. Wormell's will take its place. We cannot too highly recommend this work.—*Hydrostatics and Sound*, by the same Author. (published by Groombridge,) is a work intended primarily for London University students, and as such must be criticised. If a student carefully reads this work and solves the problems it contains, he need not fear his ability to satisfy the examiners. London University students have long felt the want of a work of this kind, it being well known that Newth is not sufficiently explicit, and many are the failures because of an insufficient knowledge of the subject. In some parts I think the author might have lengthened his explanations, and by adding a few more specimen solutions have added to the value of the book. In asking for more solutions, I remember the many hard-working private students who in a difficulty have no master to fly to, and these form a large percentage of London University candidates; and even this should refer more especially to the chapter on sound, the other rules being generally amply illustrated.—*Geometrical Optics*, by O. AIRY, B.A., (Macmillan), has but one failing, which we hear will be remedied if a second edition should be called for. It has no examples to test the student's knowledge, yet it will be found a valuable addition to our school books, and to London University students.—*Elementary Arithmetic*, Part II., Cassell's Primary Series, by R. RICKARD, is a little work for little folk, with plenty of examples.

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ARITHMETIC AND ALGEBRA. — *Matric. Papers*, London, January and June, 1870.—I. If a tax of 12 per cent. on the income of a country brings in £5,200,000, how much will an income-tax of fivepence in the pound bring in?

## RECREATIVE READINGS.\*

UNDER this heading we shall from time to time notice such publications as we deem worthy. Our efforts will be directed mostly towards such books as are calculated to raise the standard of public morality, and cultivate truthfulness and honour amongst the youthful world.

*Stories of School Life.* (Illustrated.) 3rd Ed. By ASCOTT R. HOPE, author of "A Book about Dominies," "A Book about Boys," &c. W. P. Nimmo.

Unfortunately there exists two kinds of "light literature," the good and the bad, of which the latter greatly predominates. Whilst the parent and the master are endeavouring to instil into the minds of our youth all that is good, their efforts are counteracted by the publication of sensational works which pander to the natural tastes of the reader, and not unfrequently eliminate all the good teaching received, making him to grow up selfish and immoral—in fact, so debased and degraded as to be little above the level of the beast of the field. However strict the rules of a school may be with regard to these works, they are broken with impunity. I have seen over and over again novels, carefully hidden under brown paper covers, conspicuously labelled "Pott's Euclid," "Students' Hume," and even "Holy Bible," taken into the class rooms and assiduously read before the master's eyes, who, of course, thought how hard A. B. or C. was working. I am not prepared to make an indiscriminate onslaught against fiction, as I believe it has to a great extent its uses. But what I do cavil against, is the injudicious reading of sensational novels containing as many fantastical and exaggerated statements as can be conjured up by a trained and fertile brain to be crammed into a given space. The natural and probable are ignored, but the most improbable is prominently set forth and impressed upon the reader as "fact." I shall not be far wrong in attributing the major portion of criminality to the fostering care with which the mass of fiction contained in our cheap publications develops the latent natural passions of young and pliant minds.

Few books have been written which are fit to be placed in the hands of the young, but we hail these exceptions with delight, and cordially welcome any accession to their number. Who has read "Tom Brown," "Eric," or the book now before us, "*Stories of School Life*," without wishing the library more extensive! The authors of these books have carefully studied the requirements, and the result is, we have something worthy of the age we live in. With regard to the special work to which I wish to draw attention, there seems to be but one drawback, and that of minor importance. The outside of the book is very elegant, vying in this respect with the inside, but—and I would mention it with the greatest gentleness—the two parts are not so strongly connected as one could wish, seeing that school boys are disposed periodically to hurl whatever book may happen to be at hand towards their neighbours' heads. Oh, ye book-binders! let me ask you to cut your work according to the cloth (that is to use it).

The style of our author is lively and interesting, capable of retaining the attention of his readers from the commencement to the end, never palling upon the taste, but leaving a keen desire for more. The work before us contains four pleasantly written tales, seemingly based upon fact. The best—if best there be—I think is entitled "The Coleworth Ghost." Then comes "The Story of a Lobster;" the other two, "Tom's Troubles," and the "Autobiography of a Latin Grammar," may be classed as of equal merit. Throughout the book good advice is bestowed with a lavish hand; the faults of master and pupil, teacher and taught, are indiscriminately dragged into the light of day.

\* This will be followed by notices of works by other writers for the young. The next number will contain a short account of the Rev. W. F. Farrar's works; then W. H. G. Kingston's and R. M. Ballantyne's, &c.

Everything pertaining to the shape of a sham is curtly denounced, whilst praise is bestowed upon that which is just and honourable.

We have no carefully hidden plot to unravel; everything is natural. There can be no doubt that the author *has studied* school life in the truest sense of the words. We have no ideal boys. The rough but generous, the sneak and the driveller, are all depicted in lifelike form. Every page recalls some episode of boyhood's days. Here we have the cane, there an imposition; here the bully, there the generous protector, and so on; nothing seems out of place, but all exactly as it was and as *it is*.

Who would hesitate for a moment to place in his son's hands a book which teems with such sentiments as the following:—Speaking of public school life, we are told that "After all, there's nothing like public school life for knocking the foppish airs out of one, and teaching us our true position in the world." In reply to the query, "What is a good boy?" we get "I think that a good boy is one who tries always to do what is *right*." What again could better express the boyish delight of the approach of holidays, than the couplet—

"No more Latin, no more Greek,  
No more cane to make me squeak,"

Nothing could be more truthfully depicted than the musings of the conscientious masters. "I wish," says Dr. Godfrey, "they (the boys) only knew how much we have their welfare at heart, and how much we do and suffer that they may grow up to be good and wise men," &c., &c. Here the extracts must close, but we hope to meet our author again shortly. Meanwhile we recommend teachers to consider the worth of this volume when the season for prize-giving has arrived. Parents also will never have cause to regret the moment they placed the book, an elegant gift, into the hands of their children.

C. H. W. B.

*My Schoolboy Friends.* A Story of Whitminster Grammar School. By ASCOTT R. HOPE. W. P. Nimmo.

I have no hesitation in saying that whatever good qualities may be found in "Stories of School Life," mentioned above, will also be found in the book before me. In fact the latter seems the best of the two. Yet it would be a difficult question to decide, many preferring a continuous narrative like that of "My Schoolboy Friends," others wishing for shorter pieces, in order to arrive at the denouement as soon as possible. We have here the same vivid writing, raising a solid substantial building out of nothingness, filling it with real live boys, preaching with irresistible might for all that is honourable and manly, and denouncing without fear or favour all deeds or words which cannot face the searching light of the noonday sun. I am sorry that further notice must be relegated to the future, but would impress upon all who have the welfare of the young at heart, the necessity of assisting the circulation of such works as these, which aim at the depression of vice, and exaltation of virtue.

C. H. W. B.

CASSELL'S POPULAR EDUCATOR. Really words fail to express our astonishment at this enormous but successful undertaking. No success can be too great for it. The various articles are admirably written, and include the latest discoveries. Useful as it is to students who can obtain the aid of a master; it is invaluable to those who are compelled to depend entirely upon their own efforts.

CASSELL'S BOOK OF BIRDS, another monthly publication of this energetic firm, is a translation of the elaborate work of the German naturalist, Dr. Brehm, by T. R. Jones, F.R.S. The editor's introductory chapter is a marvel of condensed information. The text, also, as far as we can judge from the first *three* numbers, is very good.



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SCHOLASTIC AGENCIES.

**T**HERE is no new thing under the sun. In the course of his travels Gil Blas visited a man of business who, in consideration of two ducats, paid in advance, allowed the impecunious youth to consult his register of vacancies. True, it was as a domestic servant that Gil Blas sought a situation, but there is not so much difference between the post of a footman and of an usher. The scholastic agent is not a new idea.

Agencies of this kind are now not uncommon and profess to procure situations in various lines of life. So long as such Agencies undertake to do nothing more than register vacant requirements, there is little to be said about them. This being understood to be the duty professed by the growing body of Scholastic Agents, they have been hitherto tolerated as necessary and useful camp followers of the Educational army. But attention has lately been drawn to their *raison d'être* by a certain article published in a certain obscure magazine, and reprinted under certain circumstances, and widely circulated amongst the scholastic profession. This article takes high ground. It claims for the Scholastic Agent a position as a very benefactor of the human race, not to speak of the Scholastic profession, but is careful to limit this enviable and profitable character to agents who have been in business for some few years. Certainly the more practice a man has in any business the more proficient he will become, this being as applicable to scholastic agents as to the members of any other profession. But we now propose to examine the statements made in the above-mentioned article.

Before bringing forward these statements as to the high and holy

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mission of Scholastic Agents, it may be mentioned that they have been publicly and flatly contradicted by Mr. R. H. Mair, the Emeritus veteran of "agency," who had at one time the principal business of this kind. In The Scholastic Register of last January, this respectable authority notices the pamphlet in question, and with sound common sense and business-like honesty, repudiates utterly the pretensions made by it on behalf of his brethren in office.

These pretensions are in the three branches of the Scholastic Agency business. (1.) "The introduction of eligible candidates for tutorial appointments to the principals of schools and to the heads of families. (2.) The recommendation of schools to parents and guardians who may wish to secure suitable, etc., and (3.) The transfer of schools from one principal to another, and the negotiation of scholastic partnerships." We will speak of these three in an inverse order, disposing quickly of the latter two, and passing back to the first, which we all know to be the backbone of the agent's business.

First, then, as to business transactions between schoolmasters. There is nothing to be objected to in agents acting as brokers in such matters, and the pamphlet under discussion scarcely invites us to be critical here, for it does not devote more than a page of fine writing to saying that an agent must be guided in these transactions by honest and enlightened commercial principles. Remember, we have no quarrel with Agencies so long as they profess to be mere Registries. But the tone of their apologist also implies that in buying and selling schools an unusual disinterestedness and intelligence will be placed at the service of *either* client by the agent. *Ipsissima verba*: "In a word, in addition to the present condition of a school, its prospects are to be considered; and these, from the intricacy and delicacy of the questions involved in their calculation, must be taken out of the interested hands of buyer and seller, and relegated to the impartial estimate of the intermediary." This sounds very well, but if I wished to conduct such a transaction, I am not sure that I should take the intermediary's word for his impartiality and ability. I once had the curiosity to write to an agent about a school advertised by him as for sale, about which school I happened to have peculiar means of information. The agent duly furnished me with "an impartial estimate" and the particulars upon which it was founded, the most important of them being to my certain knowledge an utter falsehood, and one which any one, even without the keen eye of an agent, might have detected on a most superficial enquiry. If I had had any serious intention of doing business, I think I should thereupon have undertaken to act as my own "intermediary," as an Irishman would say.

The second way in which the agent acts the philanthropist is by introducing pupils to schools and recommending schools to pupils. In this character he is a high-minded "intermediary" between his scholastic patrons, and their lay fellow creatures, and he is careful to inform us, is still "impartial," to this end anxiously making himself acquainted with the condition and performances of the schools he recommends, as also

with the talents, temper and disposition of the pupil to be introduced. Where ignorant parents and guardians fear to tread, there Scholastic Agents rush in, chalking you off in a few minutes, and for a merely ridiculous commission—or gratis, is it?—the plan of a course of education warranted to fit and wear well, which is almost asserted to be kept ready made on the premises. Do you want a commercial school, a classical school, a genteel school, a cramming school, a cricketing school, a cheap school, a strict school? Step in, ladies and gentlemen, they are all kept on stock, and inspection is confidently invited. Nay more, the agent professes to discriminate the very peculiarities of each party, and ensures that the round boy given into his hands shall in no case be fitted into a square pedagogic hole; nor the angular dominie be squeezed against sharply protruding points of an indocile pupil. Of course the agent must periodically inspect the schools and examine the masters whom he professes to recommend so confidently; but there is reason to doubt that a personal interview with his juvenile clients is considered necessary. If this doubt be unfounded, the interview must be a short but most interesting one, and we should extremely like to be present at it. We can imagine the agent sitting in state like a fashionable physician, and rapidly diagnosing diseases far more subtle and deadly than mere physical agues and inflammation. "There!" he says, running his eye over the alarmed patient, who gasps in the large chair opposite and smells suspiciously for instruments of dentistry, "don't be afraid, my little man. Let me look, tropically, if I may so speak, at your tongue, and feel your mental and moral pulse. Dear me! Excited, irregular. What a pity you did not come here before. Let me see what I can do for you. Says he hates Latin grammar, does he? Singed the tail of his grandmother's cat. Called the governess 'an old moke.' Bad symptoms, very bad, careful course of tonics is the thing. Father doesn't mind going the length of thirty pounds, but no extras. Going to be a grocer—good hand-writing and summing indispensable; church principles preferred. Hm!" Here the agent takes a pinch of snuff, throws himself back in his chair and reflects profoundly. "The very thing!" he exclaims turning over a file of prospectuses. "Send him to Mr. A. at Hampstead, or stay, Mr. B. at Folkstone will do equally well. I believe you would do well to try Dr. Ph. D. of Yorkshire, but then French and washing are extras with him. Good morning. Shall be glad to see you again, sir."

In one point the agent's omniscience is cautious. By the mouth of his pamphleteer, he undertakes confidently to vouch for the qualifications of schools and schoolmasters, and for the character of pupils, but in the case of these latter, he positively refuses to insure the solvency of their parents. One would think it easier for an agent to satisfy himself of the respectability and stability of a tradesman's business, than of the morality and characteristic peculiarities of the same man's son. Just so it would be easier for Mr. Zadkiel to say out simply and clearly *what* misfortune would happen to *what* illustrious personage and when to a day, so that we might know about going into mourning. But then—it takes a great



deal of omniscience to venture upon an assertion which is sure to be so easily and practically tested, and with such plainly important consequences.

Six pages and a quarter does the writer devote to depicting the ideal agent's careful and anxious attention to this minor branch of his responsibility. From schoolmasters in all parts of the country we receive information that on payment of two shillings and sixpence or so, their prospectuses are filed by agents who do not know them even by name, but who henceforth proceed to more or less zealous "recommendation" of them upon one sole condition. Another firm of agents put the matter in more straightforward if in less highly conscientious phraseology. Their responsibility in the matter is of a much more pleasing and less harassing nature. Here is the blunt language of their advertisement:

"Parents and Guardians desirous of placing their sons, daughters or wards in really good schools, can be recommended to the best Scholastic Establishments, either in the United Kingdom or on the Continent, on applying to Messrs. So-and-So and Co. Prospectuses gratis.

"Principals of good schools not yet in correspondence with this Agency, and who are desirous of increasing their connexion, can obtain English and Foreign pupils on the introduction of Messrs. So-and-So and Co. *Terms:* Ten per cent. on the first year's payment, to be remitted when the pupil enters. Those who agree to these terms are requested to forward a dozen prospectuses, and five shillings in stamps for correspondence."

By-the-bye, this latter charge seems exorbitant. The proper charge for "filing prospectuses" is, we believe, two shillings and sixpence. We have one more fault to find with the above advertisement. Its authors profess to recommend pupils to "the best Scholastic Establishments." Among these, in the opinion of most authorities, are to be reckoned such institutions as Rugby, Marlborough, Eton, &c., if indeed these schools do not fall short of the dignity of "Establishments." We mention them because we are curious to learn whether their authorities have duly taken care to "file their prospectuses" at the office of Messrs. So and So. We are very much mistaken if any public school, whether among the "best" or not, would avail itself of this way of obtaining pupils. To our knowledge an agent had lately the effrontery to send to the master of such a school—both parties being utter strangers—an offer to recommend two pupils, on receiving an assurance as to his "terms." The transaction was proposed in the most delicate language possible under the circumstances, but nothing was said as to the high mission of the agent in introducing Arnolds and Cottons to eligible customers. We need not mention the result of the negotiation.

It is of course the truth that the business of these people is almost entirely confined to those schools which are called "middle class," and is mainly supported by not the best class of them. This is evident when we come to consider the third and largest branch of the business, the hiring of assistants. The pamphleteer makes some apology for his

paragon patrons of educational proficiency, inasmuch as sorely against their will they cannot well avoid dealing in inferior schools and inferior teachers. But everybody knows that not half so many agents would flourish if there were not so many bad schools which are always changing their masters, and so many unfit masters who are always changing their situations, and thus, as we shall see presently, bringing grist to the agency mill.

It is all very well for Mr. So-and-So to advertise that every tutor can obtain a "high-class post" through him. A high-class educational post, we again submit, would be a mastership at Eton or Harrow, but the agent has not often such on his books, and in fact this well-sounding statement is no more true than Messrs. Jones & Co.'s assertion that their tea at two shillings is the best, and cheapest, and purest, and so forth, in the market. The fact is, we believe, that a few University men apply to the most "eminent" of these agents; a still smaller number conclude engagements through their means; many meritorious and well qualified teachers of a lower rank are reluctantly obliged to seek engagements in this way; but the enormous majority of the agent's clients are the rag-tag and bobtail who fill the junior ranks of the scholastic profession, taking by chance to the work because they are fit for no other, peddling their cheap inefficiency from school to school, and meandering through life till they either fall into the more profitable channel of some other profession, or lose themselves in heaven knows what quicksands and marshes. One scarcely ever sees a grey-haired usher; a dead donkey or postboy is not a rarer sight.

We have seen the extraordinary manner in which agents advertise this part of their business; shall we inquire how they discharge it? The apologist is distinct, almost earnest, upon this head, asserting the agent's constant diligence to obtain a full knowledge of the character and attainments of his clients, and how in introducing masters he minutely considers their probable fitness for the post, and the fitness of the post for them, bearing in mind the circumstances and peculiarities of both parties.

We are writing for the information of schoolmasters, and therefore do not feel it necessary to contradict this statement in detail. Persons who know anything about these agencies, are aware that in many, if not in most cases, their conductors are totally unacquainted with their clients except by name, that their system of references is the frailest barrier against imposition, if indeed it is a barrier at all; for we very much doubt if the references given by assistant masters are often or ever verified. We have enquired of gentlemen whose names we know to have been used in this way, and we cannot find that, in a single instance, they were communicated with as to the persons who thus used their names to recommend themselves. Some agents are loud in professing to discard the disreputable members or hangers-on of the scholastic calling. This, Mr. Mair says, an agent will try to do as a matter of policy, though he frankly adds a hint that, in an agent's eyes, the black sheep of the profession are emphatically

those who have a weakness for avoiding the payment of his fees—a not inconsiderable body, if we may judge from the signatory formalities—which are the first and most important steps towards the privilege of being “recommended.” On all hands schoolmasters assert that from these agents they are frequently supplied with assistants who are unsuitable, altogether unfit for their work, or morally objectionable. Some masters whom we have consulted, go the length of saying that, in their experience, this is the rule rather than the exception. And we wonder any man can assert in an article intended for schoolmasters, that, in individual cases of this kind, the agent does his best to ensure the mutual understanding, sympathy, and co-operation of the head master and his assistant, not even neglecting to consider the personal attractions of the latter, and the probability of his being able to induce the former’s “impressible daughter to an imprudent engagement or an ineligible marriage.” It is in schools where only one usher is kept, we are told, that “this microscopic care and investigation” is considered necessary. In larger schools, your agent will take a broad view of the “general and individual characteristics of the staff of instructors,” and will consider it his duty to “secure the greatest breadth and diversity of attainment . . . the widest difference, without antagonism, of temper and disposition; in short, the greatest variety of qualities and qualifications in combination with the greatest aggregate of teaching power.”

Thus modestly the agent claims to be useful in supplying schools with English masters, but, when we come to dealing in foreign pedagogues, it seems he is absolutely necessary. He is a very Ulysses; he has travelled through many lands, and seen the manners of many peoples. His experienced eye can at once classify the bearded foreigner whom you may suspect too rashly, or trust too simply, as the case may be. “The refinement of one country may be as extensive as the refinement of another, but not perfectly coincident.” So do not, Mr. Pedagogue, allow yourself to be hastily led away by your own prejudice about soap and water, or your own judgment as to Monsieur’s Parisian accent, or the ability of his washerwoman. It is the agent only who can discriminate your political refugee, your broken-down hairdresser, and your real instructor. Here is an awful warning for you:—If you do not employ Mr. So-and-So, or Mr. A. B. C., you run the risk of having an usher who will turn your schoolroom into a socialist propaganda. Good heavens! In a few months, Rochefort or Felix Pyat may be let loose upon the English educational market!

Nor is it only knowledge of the world that the agent boasts. Though he does not exactly claim to be a literary man himself, he is able to “estimate” the learning with which he is brought in contact, just in some such way as a publisher is able to judge of the value of a manuscript submitted to him, we suppose. We respectfully suggest to the various scholastic agents of the metropolis, that their literary employés or partners be at once set to work to compose new and original forms to be sent to candidates for appointments. In order to

write this article, we have procured copies of these documents from the principal agents, but have found the perusal of them an easy task, seeing that they are almost word for word the same, copying from each other a set of interrogations, which, as was well pointed out in the last number of this journal, are singularly unsuitable, and show that the framers of them are *not* able to estimate the learning with which they are "brought in contact"—on paper.

Finally, we are to understand that the agent is equally able to deal in governesses, and that in this department too his carefulness and experience warrant his customers in being confident of receiving a superior and suitable article. This fact is simply stated in a single line, and we, too, devote a line to recording it.

The manner in which this important duty of recommending assistants to schools is actually performed, we shall now proceed to describe, as it has been described to us by every person of our acquaintance who has ever made use of one of these agencies. An usher has quarrelled with his employer, or grows tired of his situation; resigns or is dismissed. He gets a character somehow, perhaps he is bribed with one to take himself off peaceably. Some men of this kind have as many testimonials as an Indian chief has scalps, and yet do not seem to have been appreciated by a single one of their eulogists in any more practical way. The assistant betakes himself to the agent; perhaps, if he is an old hand, to two or three agents. The agent desires him to fill up a form, in which he is permitted to state the branches of learning professed by him, and to name one or two references, who are consulted, however, certainly not in all cases, probably not in many, perhaps not in any. But the most important part of this ceremony is the signing of a promise to pay the agent in advance, and immediately on a situation being *accepted* (not entered upon) through his introduction, a commission of, in most cases, five per cent. on the first year's salary agreed on. He then becomes recommendable. It is not, we believe, necessary that he should present himself at the agent's; persons residing in the country are requested to send a *carte de visite*. Candidates are advised, however, to call at the office frequently, and there in different pens by two or three at a time, they are submitted to the inspection of "principals," who handle their moral and mental muscles, and inquire their price. We are not aware whether the agent attends in person to show off the points of his cattle; we have heard that the assistants are treated in a way that contrasts strongly with the obsequiousness shown to "principals." Candidates who cannot attend at the office, have sent them a list of gentlemen who require assistants, and to whom they may write if they please. The carefulness of the agent in bringing together suitable coadjutors is denied by many schoolmasters, who assert that candidates by no means answering the description of their requirements are constantly referred to them. The principal and the assistant, once introduced, make their own bargain, the only further appearance of the agent being to claim, peremptorily and immediately, five per cent. of a year's salary, which has not yet been received, and which, perhaps—

*probably* in the case of some schools—never will be wholly received. If the assistant is not prepared with ready money, the philanthropic Shylock makes him sign an order on his employer *in posse* for the whole sum, with five per cent. interest thereon. This seems to be the extent of the agent's cares in most cases. Occasionally, he tells us, some master, who is unable to come to town, trusts him to engage an usher, or a staff of them; such a schoolmaster must surely be remarkably incapable and remarkably credulous.

Here is to our eyes the worst feature of the agency system. This apparently ample fee of five per cent. is entirely paid by the assistant, the poorer and more helpless of the two parties thus introduced. This high-minded agent, this benefactor of the cause of education and of humanity, does not demand a single farthing of remuneration from the comparatively rich principal. This remarkable fact is not touched on in the apology which we have had in view, and for good reasons. Putting aside all the cant of fine intentions, let us say bluntly that the agent makes a living out of the necessities of a badly paid and badly treated class of men, and that his office would not remain open for a day if he did not bribe the principals by offering it to them as a means of engaging masters without trouble or expense on their part. This alone would show that the agent's is not a philanthropic mission, but, in the worst sense of an abused adjective, a mere commercial undertaking of no very elevated but—it can easily be imagined—of a rather profitable nature. The fact is, your agent has only to get an office, a ledger, and an ink bottle, and advertise till clients appear, and he is on the road to an easy fortune. It is; but the first step which counts in this business. The principals come to him to take their pick of his herd without charge; and wherever the principals go, there are the assistants obliged to gather together.

It is urged that this system is useful, at all events. No doubt it has come to be so exceedingly useful in one sense that it will be hard for teachers to shake off its yoke; but why did it ever become necessary? Look at the matter shortly. A teacher applies to an agent, describes his qualifications as he pleases, is entered on the books of the office, receives notice of some half-dozen vacancies, writes some dozen letters to the addresses mentioned, pays several calls, kicks his heels occasionally at the agency office for two or three hours, finally concludes an engagement at a salary of say £60, and at once has to hand over £3 to the agent who has done him such important services. This would strike anyone as a not very enviable way of gaining money, and when the agent attempts to make out a highly moral and intellectual character for such business, one feels inclined to use strong and unpleasant language.

The fact is that an agent does nothing which could not be done by the ordinary course of advertisement in the newspapers, unless we except the "facilities" which he gives for interviews, but which might just as well, and less expensively, be given by any house of public entertainment. It is complained that advertisements in the general

papers do not "take." And here we are compelled to complain of the scanty encouragement given to professional journals such as our own, which is willing to act as an "intermediary" for the transaction of all business done at agency offices without any other charge than the price of the advertisement. Or, if our readers obstinately prefer the public market system of the offices, we advise them to pen themselves for inspection at the agency conducted by the College of Preceptors, where they are more likely to find favourable auction than at the hands of private speculators who live by the necessities and disunion of the educational profession.

Agencies flourish on this profession, but are not confined to it. There are clerical and medical agencies also. These, however, are not so prosperous, and are scarcely even recognized by the professions to which they claim to minister. Why? Because a surgeon must have a skilful hand and a good manner; a clergyman must be a gentleman, or at least a Christian. Here personal qualities are absolutely requisite, and these cannot be vouched for by the agent. But should not schoolmasters, above members of all other professions, be Christians and gentlemen, and wise and skilful, seeing that on them it depends mainly whether the next generation shall grow up with these qualities or not? This is a new idea that has lately obtained credit with some thinkers, and when it has been more widely spread we shall hear no more of agencies which undertake to hire out teachers in much the same way as they would do footmen.

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*On the Unsuitableness of Euclid as a Text-book of Geometry.* By the  
Rev. JOSHUA JONES, D.C.L. Longmans (46 pp).

Gutta cavat lapidem, non vi, sed sæpe cadendo.

"QUIETA non movere" is not the motto of educationalists at the present time any more than it is of our leading statesmen and thinkers. For some twenty centuries Euclid's Elements\* have been looked upon as a quasi-sacred book, and have maintained, in this country at least, an almost unchallenged position to the present date. For some little time, however, the air has resounded with reiterated attacks on the old, time-honoured book, and even now its prestige seems to be on the wane. An "Athenæum" reviewer (No. 2,150, Jan. 9, 1869), writes, "There has been much want of geometrical dissent, and it seems likely that there will be enough of it. Heretics never come alone, and so much the better. After a score of attempts to overthrow Euclid, we shall have a

\* There is a short review of Bretschneider's "Die Geometrie und der Geometer vor Euklides" (180 pp.) in "Nature," No. 77, April 20, 1871, in which is pointed out what of Geometry the Greeks derived from the Egyptians.

chance of a good attempt to amend the "Elements." Hitherto, editors of Euclid have been afraid to offer too much violence to the idol. Some fear publishers, some fear schoolmasters, some fear themselves. The fears will abate when it becomes manifest that the notion of an amended Euclid has become an idea of the age. And this idea we look to the opponents to fix in the public mind."

The earliest agitator of any consequence is probably Borellius, who, in his "Euclides Restitutus" (1658) expresses the sentiments of modern agitators fairly enough in the following words: "Semper odi atque irrisi vulgarem illam sententiam, quâ præclara hominum ingenia a novis rerum mirandarum inventionibus arcentur; præconceptam videlicet illam opinionem, quod prisca tantum magistri nati sint arcuorum naturæ inspectores atque interpretes. Sapientiamque universam jure sibi debitam hauserint, neque aliquid præterea detegendum, sive melius aut facilius explicandum posteris relictum sit: cæteraque hominum multitudo inter discipulos reponi debeat, cui non liceat oculos aut mentem e libris majorum amovere. Non tamen is sum, qui præceptoribus debitos honores denegandos esse existimem. Utrumque vitium fugiendum est; ingratitude nimirum et ignorantia."

This work of Borelli's Barrow styles as "librum perelegantem et perutilem." See his Lect. viii., p. 148 (1664); and also Lect. viii., p. 314 (1666).<sup>\*</sup> Barrow is bolder in the expression of his views in these *lectiones* than he is in his Euclid,<sup>†</sup> for in this latter work, though he commends Tacquet's<sup>‡</sup> well-known *Elementa*, yet he reproduces Euclid with the mere use of symbols and shorter demonstrations. Two other works which appeared about this date are worthy of perusal, those of De Chales and Pardies.<sup>§</sup> There is added to each proposition in the former work a brief account of some use that is made of it in other parts of mathematics. He proves, Euc. i. 5, by the application of one triangle to another, for "I was unwilling to make use of Euclid's demonstration, because, being very difficult, it might discourage beginners." He omits i. 7, and proves i. 8 otherwise than Euclid does. Parallel straight lines are those that have equal perpendiculars. The "Euclides Reformatus" of Marchettis (1709) does not depart much from the order and method of Euclid.

I pass on now to the year 1752, when there came out "Geometry Made Easy; or, a New Methodical Explanation of the Elements of Geometry," by John Lodge Cowley. In the preface (p. vi.) in answer to the objection which might be taken to the increasing the number of books on Geometry, the author replies: "In my own experience the knowledge of geometry hath, by the following method, been easily attained by those to whom Euclid's proved very difficult, and this, in the

<sup>\*</sup> Mathematicæ Lectiones, printed in 1684, very scarce.

<sup>†</sup> Euclides Elementorum, libri xv., breviter demonstrati operâ, Is. Barrow, Camb., 1655.

<sup>‡</sup> A. Tacquet, born 1612, died 1660. Cf. "Life of Ambrose Bonwicke," by J. E. B. Mayor, pp. 192-3. For De Chales see the same work, p. 198.

<sup>§</sup> Pardies says, "La lecture d'Euclide, difficile et ennuyeuse."

judgment of the impartial reader, will no doubt sufficiently justify me in this attempt." This work was quickly succeeded by Emerson's "Elements," who writes: "We are not to suppose that in these ancient times this science was anything near the perfection it is now in . . . . It cannot be denied that Euclid's Elements abound with a great many trifling propositions, which are of no other use but to demonstrate, in his way, the propositions that follow after. But they are disposed in no proper order or method; for he frequently treats of different subjects promiscuously together in the same place, without any regard to the nature of things or their connection with one another, and as often has the same subject to consider in different places, which can breed nothing but confusion. But there are likewise a great many propositions in the present system of geometry which these ancient geometers knew nothing of, and which are equally useful with those of Euclid\* (preface, p. v.). He follows up with remarks on the "Reductio ad absurdum" argument in geometry, and convertible propositions.

I come next to a work which appears to me well worthy of careful perusal. The author's views will be seen from the following extract:—

"I cannot be of opinion that the manner in which Euclid has compiled his elements, is the best that can possibly be, because Euclid lived two thousand years ago. 'Tis not to be imagined that the Mathematical Sciences were at their *ne plus ultra* in his days, for it is notorious they were not; then why should the Elements of Geometry? I am not so wedded to antiquity as to think the ancients were infallible; nor do I think that all Euclid's definitions are necessary, or that he has omitted none that are so: Such, therefore, as I presume to think useless, I have rejected, and have supplied their places with others, which I think more necessary to be defined."†

The peculiar feature about the next testimony I cite is that the witness writes from Cambridge, a quarter which has been and still seems to be strongly conservative on this question. In the year 1819, Mr. Cresswell,‡ Fellow of Trinity College, writes "it is not enough to point out *some* faults in the compilation of Euclid, for this is common to all human performances, and its want of absolute perfection has not escaped the notice either of ancient or of modern commentators. But the question really is, whether it be so faulty as to justify an attempt which aims at the new modelling almost the whole system of Elementary Geo-

\* Elements of Geometry, in which the principal propositions of Euclid, Archimedes, and others are demonstrated in the most easy manner, to which is added a collection of useful Geometrical problems. By W. Emerson. London: 1763.

† The New Royal Road to Geometry and Familiar Introduction to the Mathematics: Part I, Elements of Geometry Abridged, containing the whole substance of Euclid's first six, the 11th and 12th books; with many other useful and valuable theorems, treated in the most brief, easy, and intelligent manner, being an attempt to render the knowledge, &c. Part II. Practical Geometry, by T. Malton, Senior (2d ed., 1793). My attention was drawn to this work by the Editor.

‡ A Treatise on Geometry, containing the first six books of Euclid's Elements, methodically arranged and concisely demonstrated, together with the Elements of Solid Geometry, by D. Cresswell, M.A. 1819.



metry." He then proceeds to point out the "principal objections, which may be urged against the accuracy of Euclid's Elements; acknowledging at the same time, with the rest of the literary world, many well-known claims to high merit in that book, and leaving it entirely to the reader's judgment to determine whether something still better might not be produced in the present day" (p. 2). He considers six main objections, the first four of which will be considered hereafter; his fifth and sixth objections are that the Elements are "not perfectly well adapted to the present advanced state of mathematical learning (p. xiv), and the materials not judiciously arranged (p. xv). The former objection might be removed by corrections and additions: and an edition of the Elements, containing a more faithful English translation than has hitherto been given, and exhibiting such emendations as appear to be necessary, always apart from the body of the work itself, would undoubtedly be a valuable accession to our general stock of mathematical books. But the last fault, if it really exist, cannot be cured without taking to pieces, as it were, the whole fabric of Euclid's geometry and rebuilding it after another model."

It is amply clear, I think, that if the agitation has been fitfully carried on, it has been persistently carried on also, and now it has attained such a height (*vires acquirit eundo*) that it cannot any longer be disregarded.

Ample evidence of the interest taken in the subject is before the world in the quick succession of text-books since the year 1867. These all more or less take modern views of the science being fashioned on the model first put forth in Legendre's Elements (1744) and followed in great part by succeeding French writers. To this work must be attributed the first weakening of the strong influence Euclid had hitherto exercised over the geometrical world; its methods far less cumbrous and more concise introduced the learner sooner to higher branches of the mathematical course. But it is not necessary to go further into the matter of continental views of the subject under treatment. Euclid has long been abandoned in France and Germany, and also in America.\* All persons at all interested in the question are familiar with Mr. Arnold's Report on Education in France, and the views of this last named writer and of others, as given in the Report of the Schools Inquiry Commission,† 1868, vol. vi.

Few men have done better service in ventilating the whole subject than the author of the able pamphlet under consideration. This work contains a fair account of the agitation up to the present time, and here it is fitting to remark that he holds the opinion shared in by the majority of the agitators, that though objection is taken to the use of Euclid as "an *Elementary* exposition of the science," it is highly valuable as a treatise on Geometry. Further no modern book can make "the philosophical speculations of ancient and modern times intelligible to us as

\* Athenæum, 2125, July 18, 1868.

† The views of Playfair, Lardner, Leslie, and others are given in a lecture by Mr. Hugo Reid (printed in the "Educational Times," for December, 1870).

a knowledge of the ancient geometry does" (Whewell "On a Liberal Education," pp. 30, 31; 1845).

Dr. Jones states a few preliminary objections to the retention of Euclid on the ground of—(i.) its abandonment in other countries; (ii.) its antiquity—Geometry has shared in the progress made by other branches of science; (iii.) its probably never having been intended for an Elementary work. (Smith's Dictionary. "Euclides," p. 68.)

Not content with the statement of these objections which appear to be valid, he proceeds to the discussion of what he considers to be four main faults under the following heads—(i.) Phraseology; (ii.) Method; (iii.) Matter; (iv.) Particular Doctrines.

(i.) Euclid is *verbose*. This is an objection urged by Beddoes,\* Playfair,† and many subsequent writers till quite recently Lund in his "Commercial Euclid" (1869) says, "Students are deterred from venturing on it at all by the diffuse and somewhat repulsive form in which Euclid presents it (Geometry) to them;" and Montucci‡ writes, "Mais le véritable inconvénient, que nous n'hésitons pas à signaler comme colossal, c'est la longueur démesurée des démonstrations" (p. 118); his language is *stiff and formal*, and here he refers to the very able paper by Mr. J. M. Wilson, on "Euclid as a Text-book of Elementary Geometry."|| It is to this paper that we most probably owe the revival of the agitation; the "Athenæum" reviewer (No. 2125) thus remarks upon it, "He stated his views with talent, method, and judgment, and impressed those who heard him with the conviction that his cause would not suffer in his hands from anything but organic and incurable disorder." Mr. Wilson's words are, "The geometrical facts are generally simple, but are disguised and overlaid by the formality of the diction, which to most boys is barely intelligible. It is long before most boys succeed in detecting the geometry beneath the strange phraseology;" the *nomenclature* is *antiquated* and often *infelicitous*, and does not meet the requirements of our present advanced stage of Geometrical knowledge.

(ii.) The remarks under this head are very good. One bears upon *the rejection of hypothetical constructions*, the more frequent use of which is insisted upon by Dr. Hirst in his preface to Wright's Plane Geometry, by Mr. Wilson, and most modern writers; the *almost total neglect of the method of superposition* (this method is employed by some of the early reformers in the case of Euc. I., 5, etc.); the *exclusion of arithmetical considerations and processes* (see also Mr. Morell's remarks in last number of the "Quarterly Journal;") the *absence of all explanation why any particular course is adopted*, and the *absence of any proper classification* (compare reference to Cresswell above).

(iii.) Here copious reference is made to the many objections made by Euclid's warmest supporter, as given in the "Companion to the British Almanac" (1849), which have formed for many editors quite a store-

\* Observations on the Nature of Demonstrative Evidence (1793).

† Geometry (1795).

‡ De l'enseignement secondaire en Angleterre, 1868.

|| Originally read before the London Mathematical Society, and subsequently printed in the "Educational Times," for September, 1868.

house of notes. A formidable list is next given of the *superfluous* propositions. On this head, reference may also be made to a paper "On Euclid as a Schoolbook, and on teaching Elementary Mathematics," by Mr. Hugo Reid, read at the College of Preceptors (see above). This paper, though a short one, touches upon many of Dr. Jones' points, and takes much the same view of the question. On the other hand, our author instances many important *omissions*, closing this head with an enumeration of the propositions whose proofs may be considerably simplified. The fourth objection, referred to above, in the account of Cresswell's work (p. 13), may be consulted here.

(iv.) This division treats of Euclid's views on (1.) *Angles*, particularly with reference to the unfortunate restriction in the definition, in consequence of which Euclid ignores the idea of two right angles making one angle, or of an angle being greater than two right angles (cf. Cresswell's first objection). (2) *Parallels*, and (3) *Proportion*. These two branches were very early attacked, and the treatise, "Euclides ab omni nævo vindicatus," by Hieronymus Saccherius (1733) may be instanced, which is entirely taken up with the treatment of these two faults (nævi). This is confessedly a difficult point, and is hardly likely to be easily settled. Dr. Jones has good and pertinent remarks on the latter head.

∴ Thus far (half way through the pamphlet) our author has been treating of the theoretical objections to the elements; he comes now to the practical side of the question, and this is a very important portion of the work. The consensus on the first head—the *amount of discouragement which beginners feel in their study of Euclid*—is almost universal amongst mathematical teachers.

Now and again a gentleman may, by his ability and enthusiasm, be able to create a contrary feeling in boys' minds (see the very interesting "Narrative Essay on a Liberal Education," by the Rev. S. Hawtrey, of Eton, 1868), but the experience, I feel certain, of the generality—not all, surely, incapable—tends the other way. Mr. Wilson's testimony, in his Essay on "Teaching Natural Science in Schools" (note, p. 268), is very strong; "extreme repulsiveness of Euclid to almost any boy" (cf. Hawtrey, p. 33). To the same purport, Mr. Wilson writes in the "Athenæum," No. 2129 (Aug. 15, 1868). Dr. Sylvester, in his address to the Mathematical and Physical Section of the British Association (1869), says, "The early study of Euclid made me a hater of Geometry." That such a result is much to be deplored, all will admit; how to prevent this disgust arising, is the problem which occupies the thoughts of mathematical teachers at the present time. Mr. Wilson, in the Essay cited above, hopes "that before long the teaching of practical Geometry will precede the teaching of the science of Geometry." Malton, referred to previously, says, "Accustoming boys early to handle and use compasses and other drawing utensils, in delineating the diagrams, as they proceed, will make it an entertainment to them of great utility, rather than a perplexing study, and make them more readily perceive the demonstration, which, under a proper tutor, they would soon have a relish for, and then they would proceed with plea-

sure; besides, it is an introduction to drawing" (p. 3). Cresswell (p. 20) also has some few remarks favourable to practical Geometry. To the same effect does Dr. Whewell write in his "Liberal Education" (p. 161): "I am persuaded, that if boys at classical schools were all exercised in arithmetic and mensuration, with the use of logarithmic tables, they would find this a more congenial employment than going over the proofs of Geometrical propositions, and would come to the university prepared to pursue their mathematical studies with elasticity and intelligence, instead of finding in them, as they so often do now, a weary and obscure task, which they engage in only as a necessary condition of some other object, and which produces little effect in that education of the reason which is its proper end." If we do teach our junior classes Geometry, it seems to me that, to expect them to commence this subject (as at present put before us in Euclid, or any of the modern works) and the elements of algebra contemporaneously, is hardly fair. The labour required for the attainment of the most elementary notions of the one subject, so far as my experience goes, is out of all proportion to the moderate difficulty presented in the acquirement of the elementary rules of the other. Hence I am heartily disposed to favour the views of the above-cited writers, and would desire that young pupils should be made tolerably familiar with the ordinary properties of geometrical figures by some such means as those referred to.

To return—the Doctor objects that in the majority of cases boys who have learned Euclid have not learned geometry from it, *i.e.*, they cannot turn this knowledge to account in the production of original work, as the solution of geometrical deductions. "En un mot, il ne comprend pas l'esprit de la science, il n'en saisit que la côté purement matériel," Montucci, p. 120; cf. also Wilson's testimony, "Ed. Times," p. 127, and his "Geometry," p. x. The author well remarks the "true test of mathematical knowledge is the ability to apply it to original questions," (p. 29). "The mastering of the text of Euclid takes up so much of the time that can fairly be allotted to geometry," for the form of the book "naturally leads both master and pupil to the idea that the great thing required is to 'get up' accurately and 'say' the propositions." This point is well put forth, and it is insisted on as a prime objection that the multiplicity of subjects now-a-days taught in schools makes it absolutely necessary to economise time. The 'Athenæum' reviewer (No. 2125) says, "It must be granted that some of his defects have powerfully aided in introducing a routine of *saying* propositions without any attention to the meaning."

The testimony of M. Montucci (p. 119) is to the same effect: "Les propositions d'Euclide s'apprennent autrefois par cœur sur toute l'étendue de la Grande Brétagne."

The objection that Euclid "supplies an admirable mental discipline, and in particular trains the mind to close, accurate, and consecutive reasoning," is met by a counter-statement, and an appeal is made to results on the Continent and in America in confirmation of its truth. "The wider knowledge of the subject,—and the consequent greater insight into

geometrical truth, and enlarged acquaintance with exact reasoning in different forms,—which would be acquired from a modern text-book, must to some extent involve a proportionately more extensive discipline of the reason, and a corresponding augmentation of its power" (p. 34). But it is not my intention to follow our author further on this head: his remarks from this point to p. 38 are well worthy of being read and digested.

¶ Here is the summing up. "It cannot be allowed, as some assert, that all the alleged defects can be easily remedied; some of them certainly are fundamental, and strike at the very root of the science. Nor can it be acknowledged that the merits of the book are such as to countervail all its faults; until at least it can be shown that no system of expounding the elements of geometry less defective, and equally or more meritorious, is possible. Until this be done, we are bound to believe that Euclid keeps its ground from force of custom,—in short from prejudice,—and nothing more."\*

We have thus got to a position which enables us to see the present condition of the question. The "Athenæum" reviewer (No. 2125) writes, "We hold by Euclid until we get a better book, and no longer. The Elements swarm with faults: here an omission, there a redundancy; here an obscurity, there an overlaboured clearness; here a logical superfluity, there an illogical shortcoming. We could imagine a work which should be all but perfection, and founded upon Euclid." Alas! the hand that penned these lines now lies cold and will never accomplish this task, one which he was perhaps the most competent to undertake: the reviewer has gone, if not *plenus diorum* yet *plenus honorum*, to that bourne "unde negant redire quenquam."

Thus the forces are marshalled facing each other: from the Anti-Euclidean camp are constantly being sent forth works, none of which, perhaps, will ever take the place of the old geometer's work (possibly a monumentum ære perennius) but will prepare the way for some geometrical text-book of the future. It would be well that the preliminaries of such a work should be thoroughly agreed upon by mathematicians, hence it is, I think, a good proposal that was recently brought under the consideration of the Association for the Improvement of Geometrical Teaching, by Mr. Wilson, and which ultimately took the form of a resolution that a syllabus should be drawn up and submitted to the criticism, first of the members of the Association, and then of the highest mathematical authorities in England.

In any case we should in this way, it is to be hoped, arrive at greater uniformity in the treatises which by their almost daily appearance threaten to overwhelm us by their numbers.

In reply to the statement that none of the proposed substitutes are satisfactory, Dr. Jones very fairly remarks that "this is very probable, as our geometrical teachers have been trained in Euclid, and have as yet had no experience in teaching any other book." Indicating what he deems to be the requirements of a good text book, he states the two following advantages as likely to accrue from the use of a modern text

\* See Cresswell's Preface.

book: (1) the study of Geometry could be commenced at a much earlier age, and (2) a larger knowledge of Geometry would be acquired.

Then we come to the question, Why continue to use a book which you deem faulty? He very properly replies, Mathematical teachers cannot help themselves. Nearly all, if not quite all, examining bodies retain Euclid alone, and, so long as such a statement as the following is true, teachers who wish to pass their pupils, must in a measure yield to the pressure on this point. In a Woolwich Entrance Examination Report (1868), I find, "If a candidate can produce *correctly the text of Euclid*, and work accurately calculations by methods which all the common books teach, without any original mathematical power or invention being required from him, he could gain, as I estimate, 530 marks from my questions" (on one paper).

The most important action in this matter could be taken by the universities. Let the lists be thrown open to all text books, as in other subjects, or at any rate do away with the restriction to one book, and let candidates be requested to mention the text-book they follow—a plan recently adopted by the London University examiners. If this course would entail too much work upon the examiners, let the option be confined to three or four approved text books. This is the course, if I mistake not, first advocated by Mr. Wilson in his Geometry, and now again pressed upon the notice of the universities by Dr. Jones. The recent meeting of headmasters of the leading public schools, held at Sherborne, in December last, also adopted a resolution to the same effect (see Report of the Association, p. 13). Much may be expected from the committee appointed by the British Association in 1869, to report upon this and kindred subjects in the present year; possibly more may be done for the very elementary teaching by the Association for the Improvement of Geometrical Teaching\* before referred to, as this Association, as at present constituted, consists of gentlemen who have for the most part been actually employed for years in teaching Geometry to young boys in schools.

It is to be hoped that the association will succeed in drawing up such a text book as shall commend itself to the majority of teachers, and be recognized by the universities. If it succeed in its endeavours to this extent only, it will not have been constituted in vain, and will earn the gratitude of all engaged in teaching Geometry in our schools. The whole subject has been, and will continue to be, ventilated, and seems, from the present aspect of things, likely to be settled on a satisfactory basis at no far distant date. Few of the combatants will deserve more commendation for their services than Mr. Wilson† and our author.

I have thus endeavoured to give a *résumé*, imperfect as it is, of Dr. Jones' able and philosophical pamphlet, trusting that I have so laid open its contents as to commend it to all geometers, Euclidean, or anti-Euclidean, or neutrals, who may cast their eyes upon these

\* See the objects of this Association, stated in the last number of the Journal (p. 330).

† This gentleman has also published a lecture on "Mathematical Teaching, especially of Geometry," which I have not seen.

remarks, and lead them, in the event of their not already being possessors of it, to a speedy and careful perusal of its pages.

In my preliminary remarks, I have endeavoured to give only such matter as is not presented in the work under review, or in Mr. Reid's lecture. Before bringing this present paper to a close, I would wish to draw the attention of readers to the statements made in Dr. Hirst's Presidential Address.\*

He remarks (p. 9): "Now, in justice, it must be admitted that in France some of the most competent authorities complain as bitterly of the state of geometrical teaching there, as we do of ours here." Then (p. 10), "We may conclude, therefore, that although, thanks to Legendre, the greater liberty they have acquired in France has led to many beneficial results, still Frenchmen complain of the want of thoroughness in their text books, and they consider that Euclid has been departed from, in spirit, too much." Similar testimony, too, does he bring forward as to the state of matters in Italy. In consequence of the number of bad text-books, Euclid, *pure* and *simple*, has been recommended for adoption in the classical schools, by Profs. Cremona † and Battaglini.

In the face of testimony such as this, surely the two forces can yield each somewhat to the other; at any rate, as Dr. Hirst suggests, it would be well "to discourage the too hasty publication of geometrical treatises in England, to insist upon the subordination of mere individual predilections, and to represent the dangers attending the treatment of fundamental and really important parts of the subject without that long and careful consideration which centuries have proved to be needful."

R. TUCKER, M.A.

## SHORT ESSAYS ON POPULAR NOTIONS OF EDUCATION.

### VI.—CRAMMING.

**B**EFORE we begin to speak of this great subject let us be allowed, after our custom, to say a few words about other things, and about our own former essays.

It might well have been—it probably was—anticipated by those who do not hold popular notions, that when natural science should have gained its great victory over classics and mathematics—when grubs, and gases, and galvanism had taken the place of thought, and language, and measure, and number, it might happen after all that much the same objection would be made by indignant parents and democratic town-councillors and "viewy" philosophers and crochety statesmen to the new subjects as to the old. In fact that, whereas the new subjects in question were probably advocated on two grounds,—first, that they were

\* First Annual Report of the A. I. G. T.

† Prof. Cremona, however, admits the "Elements" to be faulty, and has translated Baltzer's work for use in the higher scientific schools (p. 11). Cf. *Giornale di Matematiche*, Feb., 1869, a letter from Profs. Brioschi and Cremona to the editor, translated in the "Nouvelles Annales," Juin, 1869, pp. 278—283. In the *Giornale* for Nov.—Dec., 1868, is a translation of Mr. Wilson's paper, and also of Dr. Hirst's Preface to Wright's Geometry.

more useful than the old, and better worth learning; secondly, that boys had a natural liking for and an unlimited power of learning botany and chemistry, and a natural dislike for and a great aptitude for not learning, or for forgetting, languages and mathematics,—it would soon be found, if the experiment were tried, that it would be just as possible to fail in learning physical science as to fail in learning Latin grammar, just as easy to forget one's chemistry as to forget one's Greek, and moreover that, for practical purposes, the one was just about as useful—or useless—as the other. This, we say, might have been anticipated,—in fact, we are not sure that we have not suggested something of the kind ourselves. But at any rate, expected or not, it is coming to pass. Chemistry has met with its Nemesis almost before it has had time to enjoy its victory. A parent writes to the *Times* (or possibly it may have been some other newspaper) complaining that his son, who went to the best possible school, has not been taught English grammar, which he requires for an examination which he has to go in for, but has learned some chemical formulæ, which he will soon forget, and some experiments, whose only use is to damage the domestic carpet.

Is this one of those straws which show which way the wind blows? Even if it is, it must not be made too much of. It does not, for instance, amount to a reaction in favour of the humanities. Even the most advanced innovators would probably have allowed that some slight knowledge of English was desirable, though their notions of English grammar might not have been exactly those of the examiners who set papers for England's future solicitors. In fact English would have been reckoned along with chemistry and botany, as one of the things destined to replace thought and speech as hitherto taught. But it is something that anyone should dare to speak with disrespect of chemistry. It is a thing which must have required some boldness. We do not mean to say that we agree in that sentiment of disrespect. The readers of the *Journal* will not accuse us of undervaluing that science. But if any-one does, let him rejoice. It is going the way of other things. It is even becoming as one of them—as Latin or Greek, as algebra and geometry.

But there is more to be said about the letter we have mentioned, and which we hope some of our readers have seen, for we do not remember it so clearly as we could wish. Does it not indicate a reaction of another sort? Has it not been a somewhat prevalent popular notion that "cramming" for examinations is a bad thing,—that education is something ethereal and transcendental, quite above and beyond any mere getting up some particular subject for some special purpose? If there has been any feeling of the sort—we do not say that there has or has not—but if there has it may be worth noticing that the writer of this letter, at any rate, considers the passing of an examination so important as to be indignant that his son should not have been so prepared, even at school, as to be able to pass it. At least he does not appear to consider, as perhaps some would do, the existence of the examination itself as an evil or a grievance. His complaint is that his son has learnt nothing which will be of use to him in his profession.

Now the general subject of examinations and popular notions about



them we may possibly speak of at some other time. For the present we shall say a very few words about "cramming," and perhaps may extend even this subject into a future essay.

We suppose there is some popular prejudice against cramming, whatever the British public means by the word. Perhaps it is not quite sure what it does mean by it; but to call a man a crammer is not intended as a compliment. It may be meant simply to insult; it may express some real though vague opinion that the teacher to whom it is applied is, somehow or other, guilty of some injurious or illegitimate method of teaching. We have been asked whether "that cramming was fair." We do not know what the questioner meant, but whether fair or not, it is probably considered as wrong or bad in some way or other.

Now what we have to do is, first to make out some kind of definition of the term as may meet the views of those who have any views on the subject; secondly, to suggest—we never attempt more than this—some considerations as to its badness or goodness,—as to whether it deserves, or does not deserve the bad name which it seems to have. And we confess that in so doing we may be casting doubts not merely upon "popular" notions, but upon the opinions and feelings of men who really are competent to form opinions on such matters, and whose feelings with regard to them cannot be without weight, though they may be exaggerated or one-sided. In our former remarks on "popular notions" we have probably had all, or nearly all, teachers with us. Here we shall run the risk of offending some of our friends. But we may still hope to meet with toleration from our readers, and perhaps to suggest something which they may think worth considering.

We will suppose then, that cramming is regarded as a process by which a certain amount of knowledge is put into the pupil's mind, to be reproduced when wanted in the form in which it was put in, without ever having become assimilated, or afforded any mental nourishment. That it is looked upon as being not teaching, but merely a device to supply the want of teaching—as being a process by which the pupil learns nothing, but is enabled by a sort of legerdemain on the part of the "crammer" to gain some of the outward and mechanical results of learning without the time or trouble necessary for really learning anything. The crammer—it may be thought—tells his pupil what to say or write in answer to certain questions, but does not teach him anything as to the subject of those questions, nor perhaps even enable him to understand what the subjects really mean. He gives, not merely nothing which can be called *education*, but scarcely even anything which can properly be reckoned instruction. He does not want him to think, or reason, or understand. He does not train or develop his mental powers. He does not appeal to his intelligence. He considers intelligence as an impertinence. He does not want his pupil to understand, but to answer. He does want him to remember—but only till the purpose is answered and it is safe to forget. If he has any faith at all in the good of mental cultivation as distinct from the mere getting up of a set of facts and formulæ, he at least does not look upon it as any part of his own duty. He hardly aims at producing even a false appearance of knowledge—much less does he think of leading to

any real knowledge. All he cares for is that his pupil shall be so far able to stand examination that it shall be difficult for an examiner to make out a case for plucking him.

Now we shall not assert that there is absolutely no ground whatever for the belief that this kind of cramming exists, and that it is a bad thing, or at best, not of much use. It is quite possible that there may be some of it. More than possible, that if there is, it is useless or mischievous. Very likely facts and formulæ are too much taught, principles and reasons too little. Very likely memory may be too much exercised, thought not enough. But after all, if no more than this be granted, the view we have stated above will still be no more than a "half-truth," though we would not go so far as to press a certain parson's opinion of half-truths against the upholders of it. Even a popular notion may have some kind of reality at the bottom of it; and if the view stated above *is* a popular notion, it also may have some real, if slight, foundation in fact. What we have now to do, is to see if there is not another side to the question, to find out with what restrictions and abatements the popular view must be accepted, if it can be accepted at all.

Now one fair question to be asked and answered before "cramming" can be condemned, will be, whether the pupil is in all cases capable of anything better. Whether it may not happen to be, if not a very good thing in itself, yet the nearest approach to education which would have any chance of reaching him at all. Perhaps, indeed, if the use of the word is strictly confined to the worst form of it, a mind which is capable of nothing better, would be as well let alone altogether. But this is scarcely possible. Even duffers expect to get *some* teaching—or their parents expect it for them. And cramming itself, perhaps, hardly exists in that extreme sense of the word in which we have been taking it. There will usually be some slight mixture of a more intelligent and less mechanical method. And it is quite conceivable that this slight mixture may be as much as would do any good under the circumstances. For possibly the popular notion about pupils as well as about teachers, may require some modification. Is there not an idea prevalent that all pupils are intelligent, easily interested, eager for knowledge, and only anxious not to be taught mere rubbish, such as language or mathematics—and that it is the teacher only who keeps down their natural aspiration for thorough cultivation of their faculties, who represses their noble rage, and freezes the genial current of their soul by his bad methods or his unreasonable prejudices? Now perhaps—we do not pretend to decide, but only to suggest—the real pupil is not always the same being as the pupil of romance. If a schoolboy, he may be hopelessly dull, or as likely, inconveniently sharp, in a wrong direction. In either case he may have no mind in particular, or his mind may not be developed. It is none the worse for him, in the latter case at least, only he should not be treated as having an understanding which he really has not. May it not be as well for him, for a time at least, to have his memory exercised, and his power of application strengthened, even by a somewhat mechanical style of teaching? For instance, he might not be able to understand philosophical history, but will it therefore be of no use to him to learn the names of the English

kings, and the order of their succession? He may not be able to understand politics—he may even have but vague ideas of distance and situation—but may he not as well learn the names of the principal European countries and their capitals, and even their area in square miles and their population? And teaching this is “cramming,” if anything is.

Or if our pupil is a few years older, he may be a “cad,” or a “waster,” or a mere coxcomb, or a haunter of billiard rooms, or an amateur tailor, or one of the many varieties of the genus “duffer.” But there may be a chance even for him. He too may get some good by a few hours of un-congenial work, submitted to of necessity. He may, in a course of cramming, acquire, however mechanically, a number of facts which he will find useful if ever his mind *does* make its appearance. For if once a fact is learned, its meaning and connection with other facts *may* insensibly suggest themselves; and the “cram” may become knowledge unawares; but if the fact has not been learned, if the necessary element of cram has been wanting, then even a powerful and original mind will have nothing to work upon. Or again, if, as may very likely be the case, our supposed pupil is *not* altogether without intelligence in all subjects, but while he has a fair appreciation of some is utterly unable to master others as they ought to be mastered. Is there not, at any rate, some excuse for the teacher, who, by any system of mechanical learning, or artificial memory—by “cram,” in fact, enables him to get through an examination, which *must* necessarily be instituted to meet the case of a rough average of men, without the possibility of regard for individual peculiarities?

However perfectly the entrance-examination for any profession may be adjusted, it is quite possible that a man may be very well qualified for that profession and yet may be obliged to trust to “cram,” or something very like it, for getting through the examination in some one or two of the different subjects. It would seem then, that to judge, in any particular case, how far “cram” is allowable and desirable, the special circumstances of that case must be taken into account. Even those who set the highest value on intelligent education as opposed to mere mechanical instruction, need not, one would think, complain, if in any case the education is made as intelligent as the circumstances of that case will allow. There is pretty certain to be a large margin left for all the appliances of mechanical skill in teaching and in learning the *materials* of thought, the facts, the dates, the formulæ; for the artificial aids to memory, for the device for shortening and lightening the labour of learning; in a word, for the various arts of “cram.”

But we need not confine our defence, such as it is, of cram, to such instances as we have supposed above, where either for general reasons or for some special purpose, the best has to be made of natural stupidity, or of distaste and disinclination for hard work. Even in the case of the pupil, or the self-taught student, whose intellect is keen and whose powers of application are great, there is still room for the same art of teaching, or learning, or remembering. Thus much difference there will be between a man who has a mere intelligent appreciation of a subject, and a man who has *learned* it—between a man who has only read, thought, reasoned, speculated, about a matter—perhaps has only dipped

into it so far as he has liked it, and had, or fancied himself to have, a taste for it, and one who has really "ground it up," who has systematically and thoroughly made himself master of its facts. The former is perhaps as intelligent as the latter—he may think that he has cultivated his intellect better—he may almost despise the seemingly dry and barren accumulation of facts which the other has stored in his memory. But nevertheless the man who has learned the facts is the man who really knows the subject; the other man, the intelligent man with the cultivated understanding and the educated appreciation, does not know it, but only amuses himself with it.

It is the thoroughness and exactness of "cram," so far as it goes, which constitute its chief recommendation, and in fact, may almost be said to make it indispensable in any teaching or learning worthy of the name. It may indeed be possible for great ability or industry to acquire some of the results of cram without consciously going through the process of it. We do not wish to speak with certainty, but only to suggest—and shall certainly not dogmatize on this point—how far this *exactness* of knowledge is attainable, or easily attainable, without conscious and intentional cramming. At any rate we may assume that there is no harm, and may be great good, in the conscious and deliberate process. Any man with experience in learning or teaching, who wished himself to learn some new subject would be likely enough, at least, *not* to be content with reading and thinking about it, and being able, in a general way, to understand its bearing, and perceive its connexion with other subjects; but to set about "getting it up" regularly and systematically, to divide it and subdivide it, to get its facts and principles into some easily intelligible form, and then by some more or less mechanical means to fix them in his memory. In short he would "cram" himself. He might be well pleased that his mind should get what improvement it could from the study, but he would not be content with this indefinite mental cultivation; but would aim at knowing the facts of his subject, and would use every means, however trifling and unscientific, to attain that object.

It might be going too far to say that "cramming" is the only kind of teaching worthy of the name of teaching. But it may at least be asked whether "cramming" is not more arduous and difficult, whether it does not require more skill and ingenuity, if not more genius, on the part of the teacher, than the mere vague bringing out of the powers of the mind, and general cultivation of the understanding which the "popular" view would probably set above it. It would be comparatively easy for a teacher to "educate," if education meant only the assisting, in an indefinite sort of way, at the development of the pupil's intelligence or taste, or reason, or imagination. It is the actual *teaching* which is the real business—the putting a subject in such a form and presenting it under such a light that a learner can see it clearly, and apprehend it easily, and remember it tenaciously. And this, we suppose, is the essence of "cramming."

Most men, perhaps, who have any reason to wish to know any subject at all, may, in some greater or less degree, have felt the want of more "cramming" than they have had. Their knowledge perhaps is vague,

they have a good general view of a subject, but a very hazy one of its particular points and details, they can appreciate it, and follow its outlines, and understand its positions and relations, but all the time they know scarcely anything about it. They have not crammed it up. In George Eliot's novel, "*The Mill on the Floss*," there is a clergyman who (we quote, or rather paraphrase, from memory) was supposed to know Latin generally, but his knowledge of any particular Latin is very doubtful. Now if he had ever been "crammed" he might indeed have known very little of Latin generally, but his knowledge of some particular Latin would, so far as it went, have been beyond all question. He might not have learned it as a philologist, or even as a Cambridge classical honour man has learned it, but he would have known what he had learned very thoroughly.

If it be possible, then, that there is any faint shade of humbug in the notion of developing the intellect and bringing out the faculties of the mind, if these or similar phrases can by any chance be merely fine language for denoting the *want* of any education or instruction properly so-called, we may perhaps look with more leniency on the "cram" system, as at least avoiding the vague and shadowy character of that more transcendental view of education which despises the mechanical getting up of facts, and looks only to mental improvement and intellectual cultivation. If "cram" does not always teach to think and to reason; on the other hand where "cram" is absent there is some likelihood that there will be nothing to think or reason about. Much might be said very plausibly against "cram," but there are many to say it, *we* have attempted to say a little in its defence or excuse, and in this we may possibly be almost alone even among the readers of the "*Journal*," and others who understand education.

J. C. V.

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## ON THE STUDY OF HISTORY.

"The noblest Study of Mankind is Man."—*Pope*.

### *I. Reasons for the Study of History.*

**P**ROFESSOR HUXLEY asserted, in his speech before the School Board, (February 15th), that the study of history was fitted, not for children, but for men. He therefore recommended that it should not be included in the elementary school course.

It may be interesting to discuss this question, and to answer the objections which have been raised against the study of history,—first, with regard to its practical use,—secondly, to the basis on which it rests.

1. The study of history is said to be useless, because it does not bear on the events of common life, and cannot be turned to any practical account. It does not assist in the cultivation of the ground or in the maintenance of public health. Other studies are more directly useful; that of chemistry educates a race of scientific farmers, who know how to use the soil to the best advantage; that of physiology tends to the well-being of the community by teaching a right observation of the laws of health; but what use can history serve?

To this we may reply that its chief object is to trace the growth of intelligent minds, and to lead to the investigation of those laws which affect the spiritual and rational rather than the temporal nature of man. It acts as a mental stimulus by enlarging the range of thoughts. It strengthens the memory by the extensive demands which it makes upon the exercise of that faculty,—and it brings with it a vast store of experience for the guidance of the present and future.

As the spiritual nature of man is above his physical nature, the records of his voluntary acts must be of a higher order than those of the sequence of natural laws; what more noble study can there be than that which follows out the course of man from the wild liberty of primeval life to the cultivated intercourse of great cities, and which traces the growth of thought from the first dim intuitions of the untaught savage to the elaborate reasonings of learned philosophers? In the light of the past alone can we learn to understand the present.

2. The study of History is said to be useless because it is uncertain. History does not belong to the exact sciences like Mathematics or the ologies. Its truths cannot at all times be accurately ascertained. The characters of men at the present day are matters of dispute, events occur of which the real circumstances are shrouded in mystery; much more must this be the case when persons and events are removed from us by the lapse of ages. This is, to a certain extent, true. But whatever may be the minor details of events, their general bearings and effects are certain. The present bears witness in many ways to the past. The laws of every nation are the gradual accumulation of the wisdom of centuries. The liberties, the welfare and prosperity of each nation are built up on the toils, the struggles, and the victories of former generations. National archives and contemporary chronicles explain the circumstances which have led to the development of character, and have determined the present condition of every people. The rank which each nation holds among other nations is the result of the past. Can any study then be more instructive, than that which leads to the comparison of the past with the present, and which traces those events which have moulded nations, and have been the causes of the effects seen amongst us? And if we would seek for other confirmation of the truth of history, we shall find it. The visible world also has its record to unfold. As the science of Geology traces the progress of created life through all its successive phases, so the science of Architecture follows the course of intellectual life. The one prepares the way for man through countless strata of lower life,—the other follows out the course of man from his lowest to his highest condition. And as below the surface, the life of a former world has left its indubitable marks, so, above the surface, the life of man may be traced with certainty. The successive races of men have left behind them records which have testified to their progress in civilization and to the nature of their religious worship; which have been clear and characteristic marks of national character. The various races of men may be tested as surely by the monuments they have left as the distinctive types of animals by their fossilized remains. Architecture, in all its glories, as well as in its ruins, abundantly confirms the truth of

history. The Pyramids and temples of Egypt agree with the descriptions of Herodotus. The walls of Jerusalem with the Phœnician markings at their base, recall the days of the early Judean king, who sent for workmen to Hiram king of Tyre—the ruined arch with its fragments discovered far below, bears witness to an episode of the great siege of Jerusalem—the mosque of Omar is a monument of the stern bigotry of the Moslem, the Church of the Holy Sepulchre of the piety of the Crusaders.

The half effaced frescoes peeping through the whitewash in St. Sophia at Constantinople testify to the victory of the Crescent over the Cross, while the Saracenic palaces of Granada are relics of the vanquished power of Islamism. Sometimes a building is in itself a history. In the cloisters of the cathedral at Trèves can be seen the remains of the old palace with its Roman brick-work, occupying the central part of the building, while to the east and west are the square towers and the round arch galleries of the 11th century. On the south is the graceful Gothic church of the 13th century, the cloisters are of the same date, and at the extreme east is a specimen of the tasteless rococo of the 17th century. These all speak, as plainly as possible, of the Roman occupation of Trèves, the rise, culmination and decline of Christian Art. From the circles of Stonehenge to Salisbury Cathedral, the life and civilization of our own nation may be traced in its architecture.

#### *Method of the Study of History.*

There are, according to Professor Seeley, two ways of studying history. The first and earliest method consists in a collection of facts, the second in a record of great social and national changes. The first presents a series of interesting occurrences, which display the doings of individuals; the second a succession of great causes which have effected the growth of races. The first method therefore is biographical, the second political. Biographical history may be made most interesting and profitable to children, and may prove a most useful element in education; political history may with advantage be reserved for riper years.

The study of biographical history benefits children in many ways.  
1. It stimulates imagination. 2. It awakens sympathy. 3. It enlarges ideas.

1. It stimulates imagination. As soon as a child can display the smallest amount of intelligence, it asks for a story, and that story is received with all the more eagerness, if it is called true. History is a storehouse of true stories, presenting a succession of ever-changing scenes, in which heroes have played their parts. It satisfies all cravings for the marvellous, in its battles and sieges, its adventures and discoveries. The rise and fall of empires afford endless variety of romantic incident, and if the mind is nourished on such food it will not care to resort to fables of fiction. What story can be more exciting than the siege of Derry? what romance more thrilling than the voyages of Columbus?

2. It awakens sympathy. The personal influence of history should be a leading element in teaching. History should not be regarded as a record of dead facts, but of the thoughts and actions of living men. Hero-worship is very early developed in the minds of children; should they not

therefore have presented to them heroes worthy of their choice, examples which may inspire and encourage them in the battle of life? They should learn how the great events of past days affected individuals; how individual greatness in its turn became national strength; how the noblest men of the age moulded the nation among whom they dwelt, and became the embodiments of its highest capacities. Alfred the Great, the Black Prince, and Sir Walter Raleigh, were each in their day the types of national character. The great events of history are the work of individual men, and the impress of these men's thoughts remains in the results they have left behind them.

"You may read of the Sedition of Corcyra, or the Conduct of the Sicilian Expedition, with the interest of a reader of romance, or the curiosity of the antiquarian, or the taste of the philologist and critic. But what a charm may be thrown over the study, when you read in these masterly sketches the history of man as a moral being, when you trace in them the developments of that moral nature which you feel in yourselves, and sympathize with its varied manifestations in the events brought before your eyes."—*Life of Bishop Hampden*.—Page 44.

3. It enlarges ideas. The study of history is calculated to teach children that they are not isolated units in the universe, but parts of a great whole. It opens out the long vista of the past, and throws light on the darkness of bygone ages. As geography gives ideas of space, history gives ideas of time. The present generation should learn to estimate its place in the ages of the world, that it may be able to value to their full extent, the blessings which the past has won. Present privileges, knowledge and civilization, are not a spontaneous growth, but the result of the labours of successive generations, and can be maintained and improved only by diligent emulation of those labours. It is the duty of the present to educate the legislators of the future. What study can be more useful to this end than that which prepares men by a knowledge of the past for a right judgment of the present? History repeats itself—similar causes produce similar results. A true estimate of past errors may prevent their recurrence. The responsibilities of the future may best be met by those who have learnt experience from the past.

But now the practical question arises as to the manner of studying history. First in primary schools. Here history is often taught in the most bald and meagre manner. The children are made to repeat a string of dates and names, and disjointed events, to which they attach no ideas, in which they have no personal interest. Now the great object of teaching history is to give ideas of personality, of energetic thought and action. Of course a groundwork of dates and names is indispensable, as no teaching can be effectual without order and sequence. But if these dry facts are attended by pictorial details, the memory will be assisted, on the one hand, by the rigid exactness of dates and names, and, on the other, by the stirring interest of romantic incident.

In primary schools, the History of England would be sufficient to occupy the whole educational course. The teaching of this history should be accomplished partly by large charts printed in clear letters, with the names of the Kings, the date of their accession, and the chief events of their reigns. Historical pictures are also useful in giving im-



pressions of scenes, thus removing the ideas of children from the region of mere words to that of true events, and enabling them to realize the personality of history. The hours often unprofitably spent in reading "extracts" might be turned to account in reading History. Series of simple lessons are already included in some of the reading books, used in these schools. These should be read carefully by the children, and supplemented by the teacher. The teacher should always prepare for the lesson beforehand, by reference to larger works, and should thus be able to amplify and extend the bare facts, and to make the lesson a pleasure to the children, by arousing their enthusiastic sympathy and interest.

In advanced schools the plan should be more extended. The usual method of teaching confines pupils to the study of one particular country (of England, of Rome, or Greece) without examining the relation which that country has borne to others, or assigning to it its right order with respect to time or place. The study of history in England lacks method and system, and is far behind that practised in other countries. It should be universal, with regard to time, general with regard to place. The Class Books used in France (published by Lévi Alvarès) proceed on a well ordered plan. They teach, to a great extent, by the use of charts, which the pupils are required to learn and to draw up for themselves. In these charts the history of the world is traced from the beginning, and for every century the contemporaneous events in each country, with the names of celebrated men, are clearly indicated. The pupils also have to prepare maps of each country, so as to combine a knowledge of geography with that of history. This union of geography and history is the foundation of the German method (in Putz's excellent handbooks, translated into English). International relations depend entirely on geographical position, and the whole life and character of a nation are determined by its situation.

The study of literature is also most necessary, for the works which each nation has left behind it are the outcome of its highest life. Plato among the Greeks, Dante among the Italians, were the concentration of the grandest aspirations of humanity. Chaucer, Shakespeare, Milton, each express a phase of the intellectual life and thought of Englishmen.

This is a wide field, and must cover a space far beyond that which any curriculum of study can present. Be it so. But let a beginning be made, let a firm foundation be laid of fact, and a well ordered scheme of historical study be established in every school. Let the method of teaching the details be so varied and diversified, that interest may be aroused and sustained, and that the study once begun may be returned to in later years with ever increasing delight. It is to be hoped that the changes now being made in public schools may result in an improved system of historical study, so that future statesmen may bring knowledge and experience to the solution of great questions, and that the works of great writers may awaken intelligent appreciation. Arnold, Gibbon, Macaulay, Froude, will be read with redoubled interest, when they present to the student features of familiar landscape, instead of leading him through the dark mazes of an unknown land.

A. GURNEY.

## MORELL'S ESSENTIALS OF GEOMETRY.



WE are sure that the Editor will have the politeness to give us a full opportunity to meet criticisms in the columns of "*Nature*," which assert that a book we have published can render "no essential service whatever" to students, "but, on the contrary, may do them incalculable mischief."

We shall therefore go over the article in "*Nature*" (March 7th) step by step, and see if its severe criticisms have any foundation. And, first, we are met by the statement that the plan and general arrangement are open to the severest criticism; and it is added that it is unnecessary to dwell thereon, as the work is so destitute of the most essential of all essentials of Geometry—accuracy and clearness, that no possible rearrangement of its materials could redeem it.

Here we have to remark, first, that the reviewer entirely overlooks the nature of the work, which, as stated in the preface (p. 7), is intended for a manual, or memento, or what Germans call "*Leitfaden*," guiding strings, and therefore a *resumé* of what has been gone over in fuller works, or of what is supplemented by the oral descriptions of a master.

But, secondly, when a charge of the most distinctive kind is made against an author and a book, it is natural to suppose that the reviewer has some solid ground on which himself to stand. And is this so here? In common with England, his only ground in elementary Geometry is Euclid, and Euclid, in plan and arrangement, is confusion worse confounded. That this is so is not only the prevalent opinion on the continent, but that of many able geometers in England. But, without quoting opinions, it is sufficient to point to the introduction of areas in the 1st Book (Props. 35—48) to the introduction of triangles before exhausting the question of lines in isolation, or not including a space Prop. I., preceding Props. IX. to XV.; the reasoning with circles in Book I., without giving the circular measure of inscribed angles; the treatment of squares on secants and tangents, and squares or rectangles upon them in Book III., before the explanation of proportional sides in Book VI., which gives the mean proportional; and the whole question of inscribed and circumscribed polygons Book IV., without touching the question of the ratio of the diameter and circumference, which is tacked on to the 12th Book, and given there in a mutilated form.

A hundred other instances of disarrangement bristle at every turn in Euclid, which, if order is heaven's first law, is a very imperfect work. Yet such is the ground on which the reviewer stands.

But, passing from attack to defence, perhaps something can be said for the order in my book.

If Geometry is a science, and truly we believe it the queen of sciences, it ought to follow the genetic law of evolution out of itself from the fewest and simplest first principles.

This should be found, not only in its axioms, but in its treatment of propositions, in short, in its method. But to talk of there being any

method of any kind in Euclid, would be to waste our time. Yet we conceive that a truly scientific method in Geometry must start from the *point*, and without chaining itself down to rigidity in conceptions, or in terms, it must follow the course of nature and of the mind in grasping the great truths with which it has to deal.

Thus, out of the point are generated, first, the line by the movement of the point in a fixed direction or in a varying direction. Secondly, the line in its combination with another, gives us all angles by rotation round a point. Thirdly, it gives us the circle or regular closed curved line, which brings us again to the measures of the angle. Fourthly, it gives us figures closed by a broken line, or a straight line diverging and returning to its original direction; or the triangle, which may be also viewed as a point travelling in three directions, and back to its starting place.

Now, it is known to all geometers, that the triangle is the key of Geometry, and that multilateral figures on to the measure of the circle by  $\pi$ , issue from it. And it is certain that the treatment of areas follows legitimately after that of boundaries, for it brings us to the second principle of extension—breadth. Reverting to our book (first Part) we find this to be the order pursued, and, passing to the second part, we trace a similar arrangement, first, in the generation of a plane by the rotation of a line; secondly, in the combination of planes into dihedra, trihedra, and polyhedra; and, thirdly, in the generation of spherical bodies by the revolution of the triangle, the rectangle, and the semicircle.

So much for the plan and arrangement. Next, as to definitions, which are qualified as full of salient incongruities. Here I would just point out a fact overlooked by the critic, that the mind of man being limited, cannot always take in all aspects of a case in its definitions. He may, and often does, make two which agree, but view the matter on different sides. We have given a case of this in the definition of a triangle, further back. We shall give another presently, in the case of parallel lines.

With regard to the incongruities in my definitions, I confess I am at a loss to find them.

If extension be not the space occupied by a body, what is it? Perhaps the reviewer wishes boys or young men of tender powers to be taught the metaphysical idea of extension.

Then it is denied that a straight line is that which has all its points in the same direction. This is natural in a worshipper of Euclid, because he does not believe in a point having either parts or magnitude, and he is so rigid about its position, that it is heresy to talk of the movement of a point. Yet out of it issues all Geometry. And here the reviewer, who is very hard on my want of logic, might have had the civility to point out a very pretty piece of logical propriety in my pages, for a curved line is defined, one whose points change direction continually. It appears to us—but then we are pronounced to have “hopeless inaccuracy of thought,” and “deplorable looseness of expression”—it appears to us, we say, that these definitions complete and establish each other.

But we are half disposed to pass over another criticism without notice, not because we are destroyed by it, but because, after the thunders of the reviewer against our incongruities, we are pained to have to point out a very grave one in his columns. The reviewer says that the author is led to the following absolutely false definition: "If two adjacent dihedral angles are equal, each one is named a dihedral right angle."

In this connection, if the reviewer had read my book, he would have seen (No. 127, p. 87) that a dihedral angle is the greater or less inclination of *two planes* that cut each other. Here again his rigidity cripples his movements and his understanding, for, if the two sides of the dihedral angles, not common, were not in the same plane, *three dihedral angles* and *three planes* would meet at the common edge instead of two, namely, a greater dihedral angle containing two lesser ones, or two turned in one direction, and a third on the reverse side of the edge. Thus the reviewer is brought to make two equal to three.\*

Matters improve as we advance, for grave objection is raised to the statement that, as a diameter divides a circle into two equal parts, therefore on superposition they must agree. The reviewer is evidently quite unable to follow the principle of generation in the evolution of mathematical figures, which shows the circle, the product of the rotation of the same radius, from a stationary point. The cause of the reviewer's difficulties in dealing with these questions is shown by himself, a few lines further on, when he actually cannot understand the mode in which one semicircle in the same circle is placed on another.

The Euclidian system has reached a petrifying stage; all under its influence are fast bound in its icy chains, and all attempts to thaw them into a thing of life and motion are hopeless. There is no point about their arguments.

Perhaps the most unfortunate illustration of the reviewer's rigidity is in his whole treatment of the question of parallels. We shall not pause to show that this is very disputed ground, and that we might have been pardoned to err where Simson, Leslie, Playfair,† and so many more have failed; but we are accused of want of logic in this connection, and we think we can point out his error as resulting from his usual rigidity, and this would be the place to show the abuse of the logical faculty.

Geometry, to be a true science, must be the joint product of observation, reasoning, and the imagination. In the early ages, when the minds of men were in the childhood stage, immersed in a contemplation of nature and in fancy, they required the correcting influence of an iron logic, separated sharply from the other faculties, which were then in the ascen-

\* In conformity with the true principle of the evolution of geometrical forms by movement, the most scientific conception of a dihedral angle is that of one plane rotating across another plane from a common edge. Thus: let there be a plane at rest  $MN$ , and let another plane  $P$  be applied to plane  $MN$ , and then rise gradually over it from the common intersection  $AB$ . The rotation will bring it round to coincide again with  $MN$ , after having formed dihedral angles  $Q$ ,  $R$ , and of different width. This rotation gives two adjacent dihedral angles, in all cases supplementary, and formed by two planes, according to the definition in my book. But if one half of plane  $MN$  be made to rotate, it will no longer be in the same plane with the other part. We shall have three planes at a common section, and three angles instead of two, as shown in the text.

† See a list of them. Thomson's Euclid. Notes, pp. 354—360. Ed. 1838.

dant. Hence the complicated artificial structure of Euclid's reasonings. Not so with us. Since Descartes and Lord Bacon, science has usurped the throne; we have lost a healthy reference to nature, and we have excluded imagination from *exact science* with too much severity, while applying it freely in all besides.

And here again we would take leave to remark, that the exaggerated effort to work out a system of Geometry by a process of exclusive logic, has led to a chaotic confusion in the elements. But, what is worse, the Euclidian system is, first, one against nature by breaking with observation and imagination; secondly, it is one of iron external necessity, and therefore slavery of mind, for it is only a catena, and not a genesis. Geometry has a necessity, and follows its laws, but this is a true scientific necessity resulting from the originating and genetic principle. The production of all geometrical magnitudes issues from two original activities, of the producing phantasy, i.e., movement and combination. In like manner, in the derivation of geometrical laws, two activities of the cognitive faculty can be distinguished: one is the research of the laws produced by the movement of magnitudes, the other is the combination of ideas and conceptions by which the way is prepared leading from one proposition to another.

It is this slavery to logical forms, driving the mathematical reasoner of Euclid's school to indirect proof, which has led to many actually false definitions and demonstrations in Euclid and the Euclidian school. Thus, to define parallel lines in a plane as straight lines, which, indefinitely produced, never meet, can scarcely be made to cover the case of parallel curved lines.

Continuing our examination of the criticisms in "Nature," we come to the heavy charge of a direct violation of logical laws, by our mode of proof of the equality of triangles from the equality of their sides.

As the reviewer had condemned the order and arrangement of my book, it was reasonable to suppose he had read it through; yet such cannot have been the case, for, if he had done so, he would have seen that the work does not aim at full proofs being chiefly confined to indications.

But if less rigid the reviewer would have seen indicated that lines which may be viewed as rotating things, vary as their angles, and angles as their lines. This might, perhaps, have satisfied Case I., No. 70, for, on superposing the equal lines,  $BC$  on  $EF$ , the only point on the same side of  $EF$ , where the radii or sides  $BA$ ,  $CA$ , could meet, having as centres  $B$  and  $C$  or  $E$  and  $F$ , must be  $D$  (because the same radius cannot be both inside and outside the same circle).\*

Here, freedom in handling figures, even without rotation, cuts out the weary indirect reasoning of Euclid in Prop. V., Book I., and makes it one of the easiest of theorems.

It may be useful, as an illustration of the helplessness produced by the principle of rigidity in Geometrical solutions, to enter a little more fully into this case. The reviewer, chained down to a rigid system of logical proof, fetters he has forged for himself, is unable to resort to the

\* For Diagrams I must refer to my little work "The Essentials of Geometry."

more easy and obvious means of explaining and proving equalities and differences. Thus : he has two triangles given him, of which the three sides are equal each to each, and he is unable to prove the equality of those triangles, and therefore that of their corresponding angles, without something more being given him. That his difficulty results from his rigidity is seen at once from a consideration of what a triangle really is.

All figures in nature and all in the mind may be considered and conceived as generated by the movement of points or lines. A triangle should be viewed either as the movement of a point in three directions till it reverts to its original position, or a broken line turning three ways.

In this process of generation the angles widen and narrow according to the movement of the point or lines. The application of these principles to the solution of our problem is suggested by foreign geometers, though not given in our book which contains chiefly indications. Let there be two triangles, the three sides of which are given equal each to each. Let  $ABC$ ,  $DEF$  be two triangles, having  $AB=DE$ ,  $AC=DF$ , and  $BC=EF$ . Then angle  $A=D$  ; for if they were unequal sides  $BC$  and  $EF$  would be unequal. Therefore  $A=D$ .

According to this view our triangles are not rigid in any sense. They are moveable generating processes. Let the equal side  $BC$  be placed upon  $EF$ . Then let the other sides of both triangles lie along the same line till the rotation begins which generates the triangles. First, let the arms of triangle  $EDF$  rise gradually from the base,  $ED$  from the base at  $E$ ,  $DF$  from the base at  $F$ . Of all the positions they take in rotating there is evidently only one where they meet on the same side of the line. This position is angle  $A$ . Now by hypothesis sides  $BA$  and  $AC$  of triangle  $BAC$  are also lying along  $EF$  and over  $BC$ , which is equal to  $EF$ . Let these sides,  $BA$  and  $CA$ , also rotate,  $BA$  from  $E$ ,  $CA$  from  $C$ . Here again there is only one position where they meet on the same side, and that position must agree with that of  $ED$ ,  $DF$ , because the lines are equal. Therefore the angle or position by rotation of equal sides  $A=E$ . It is evident the positions must agree. For otherwise angle  $A$  would envelop angle  $D$ , or angle  $D$  would envelop angle  $A$ . But in that case the sides would be unequal, which is contrary to the hypothesis.

2. Juxtaposition with rotation is also suggested for the proof of our proposition. But here, as in all Geometry, juxtaposition free and without rigidity. The superposition may be simply that of one line in the first instance. Thus, let line  $AC$  be applied to and cover its equal,  $DF$ . Then let lines  $BC$  and  $AB$  be folded over it. Then let  $C$   $B$  rise from point  $F$ , and  $A$   $B$  from point  $D$ , till they meet at point  $B$ . Next let triangle  $DEF$  revolve over side  $DF$ . Here the angles  $EDF$  and  $EFB$  will be repeated on the other side of the common line  $DF$ , and they must agree with  $CAB$ ,  $BCA$ , or the triangle  $ABC$  would either envelop or be enveloped by the triangle  $EDF$ .

It will be seen that the suggestions for proofs of the equality of the angles from that of the sides are numerous, if we get rid of the hamper

of rigidity in the treatment of geometrical figures and enter on a close inquiry into the nature of their formation. To engage in these inquiries with logic alone, and with our hands tied is as unreasonable as trying to read with blinkers before our eyes, an achievement that must be left to those who are more clairvoyant than some of our reviewers.

Before concluding we wish to add a few words about the true science of Geometry, by evolution from its simplest forms. It is certain that many of our Euclidian modes of proof are unscientific, especially the *reductio ad absurdum* which is indirect and negative, and though we have given one or two instances of it\* we have generally preferred in our shorter demonstrations the proofs by movement, such as rotation and superposition. But in winding up we wish very much the reviewer would explain the incongruity of Euclid with whom he is bound up in the fetters of an exclusive logic, when he (Euclid) bases the whole question of the equality of triangles on superposition, (iv. 1st Book), and then stiffens back into logic, (5th Prop. 1st Book). Why, if superposition be allowed, was movement in general excluded from demonstrations, and if the equality of triangles is the key of geometry and is found by superposition, why exclude this principle in other cases?

Moreover why prove indirectly what can be proved directly? We like straightforward dealing in all true sciences, and we distrust systems that can only arrive at their conclusions by indirect means.

If the reviewer should wish to study a treatment of Geometry that may probably be new to him, we may refer him to the following authors who carry out at greater length and go further into the grounds of views here only sketched out.

*Herbart's ABC der Anschauung, 2te Auflage.*

*Trendelenburg's Logische Untersuchungen, XVIII. & XI. Abschnitt.*

*Steiner's Systematische Entwicklung der Abhängigkeit geometrischer Gestalten von einander.*

## CORRESPONDENCE.†

*Although responsible for the insertion of the following communications, the Editor does not necessarily agree with all that is stated therein. Nevertheless he does not feel justified in simply inserting such notices as agree with his own opinion, but wishes to give fairly and without bias the opinions held by different members of the profession. A vast amount of good must ensue from the consideration of various questions intimately connected with the well-being of all engaged in tuition. The Editor, therefore, will be glad to receive any communications upon subjects connected with scholastic affairs, and if of sufficient importance will insert them in future issues of the Journal.]*

*To the Editor of the "Quarterly Journal of Education."*

DEAR SIR,—The *Quarterly Journal of Education* for April 1871 reached me in this far outlying quarter a little while ago. And as I have been always

\* Legendre, whom we have often followed, is for instance much given to Euclidian modes of proof, though in a shorter form of words. Amiot and the later French School are freer in their treatment of proof.

† If "Beta" will forward address, solutions will be sent by post, as our space is so limited.—ED.

intending to write to you, this reminds me that I should not put it off any longer, as delays are proverbially dangerous—and what one puts off to-day he will forget to do to-morrow; so, that I may not forget, I do what is in my head to do at this time.

I am glad to see the Journal so much improved; it might grace the drawing rooms of our gentry—of all who put much upon an outside appearance and are taken by that. And if we turn to the contents there is something to improve one who is in search of that, and he or she—for I suppose your Journal might go amongst the ladies—who wants to know what is doing in the educational world in this day, may find that too. Progression is the order of the day, and none need be afraid of the changes that you propose, I think, and so no lady need take fright at what you say, though they be conservative in almost all things. You have got a new thing in England and are a little proud of it, an Education Bill, which we in Scotland have long had, and while you rejoice at your changes, with some notes of dolour in your joy, we can sound nothing but the doleful strains. Unlike that old man Gray—whose sprightly harp, when he wished to sing of Cadmus—and too, to speak of the Atridae, found;

‘Α Βάρβιτος δὲ χορδαῖς

Ἔρωτα μόνον ἤχεϊ,—

our national harp only sounds to hate, for the Educational changes proposed for us. And there is little to be wondered at in this, for it is only to annihilate Education in my quarter, and I am persuaded in many others. We—that is I and my parish—are better than any bill can make us, and Scotland is in general better than the proposed bill will leave us. It will not make our people and nation more expert linguists or mathematicians than hitherto; for it lowers, instead of elevating our present standard. And though it did aim at that, still an education is more than to be expert in using an instrument, which is all that is aimed at in our day. I think we should aim at training the moral and intellectual faculty as well as the mere memory. For, it is of as much importance, in a public point of view, nay of more, that a man be a good, steady, moral and religious man, than that he be able to sum up so many thousands of millions in the twentieth part of the twinkling of an eye. The first is of service to the man and to the State, the last of small service. But it is the last our educational measures aim at, to the exclusion of the first. Now *we* have not been used to this in Scotland, but to something more and fuller. We have had all that is proposed, and more; for our bill proposes to strip us, and denude us of what has been given hitherto. That's a bad thing in itself. And then it must be remembered, we are not badly educated;—can compare favourably with those nations in Europe and out of it, that boast most, by selves and others, of their Education as nations. The mass of Frenchmen, for example, are ignorant to a degree—not so the mass of Scotchmen.

And then personally and privately I object to many things, and to this in particular—I do not want government drill upon my child; I do not want the State to take the power out of my hand of educating my child as I think best; I am not a Spartan, nor in a Spartan state. I claim to be left free; I object as much to this kind of education and to pay for it, as the dissenter objects to an education with religion in it. I object to pay at all for such teaching. Mind, it is not that HE and I stand on a common point;—Education, with his meaning of the word;—but only differ about religion being in it; nothing of the kind. It is my bounden duty, my religious duty, to educate my child as I think fit, and not to be compelled to do it in this way or in that. But not the State's duty or right, not a free State's, to dictate to me how, where, when, if I religiously and conscientiously object to that, which I



do. I am a free trader, that's all, and in my family matters and arrangements cannot and ought not to be dictated to. I know the benefit and advantage of a good moral and intellectual religious education, and shall myself attend to such for my own. Now, I object to every measure that takes this power out of my hands, and I object to pay for having this taken from me. I have, *we have*, enjoyed the right of sending our children where we please; there has been no dictation from any government, nor any board, what we are to teach, nor when; and it is better that there should not. Leave these things as they are. Now in England, all this is different; and you do not know our system. You rejoice at your bill, we howl and weep at ours. I hope this may meet the eyes of some M. P.s; and that they will attend to sense and freedom; and give us both in any bill; or our bill will soon be made unworkable as it deserves.

I have run on to a great length, though I began a private note; but the subject was on my mind; your Journal is an Educational one, and perhaps some of the ministers in the Church of England may read your Journal, and be willing to lend us a helping hand for religion. I want her free as hitherto in all our teaching; as much freedom for her as for *the Education* men want to circulate, she is to be shackled and bound in the *school*; one place at least, she shall not be. You take up your own bill and criticize it; will you be able to find a place in your Journal for this?

I must congratulate you on the appearance of the Journal; and on some papers on improved methods of teaching and learning Geometry, &c., which have the merit to be short proofs of the things to be proved, and conclusive. And since this was intended for a private note, and is not one, I shall write that private note, which of course you are not to publish.

By the way, let me just say, that some of your correspondents, though, might improve their English, and add to their own credit. There are no short cuts in writing one's mother tongue. There are many excellent models. They should read these as they have time, and let me recommend the Latin and Greek classics which, used well, will improve their taste in a way that not many other studies can; and for giving a good style of English, along with the reading of good sturdy English authors, the translation from the Latin or Greek classics is the best training. The mind becomes thus disciplined, by the acquaintance with thought and its expression. S.

MANSE, ORKNEY.

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*To the Editor of the "Quarterly Journal of Education."*

PROSPECT HOUSE ACADEMY, HYTHE, KENT,  
May 15th, 1871.

SIR,--In sending an order to Mr. Allman for more copies of the Journal, I beg to take the opportunity of leaving with him a note for you, to express the pleasure and assistance derived by me, and a friend at Folkstone, from reading your ably-conducted publication.

We are studying for the University of London Examination, and should esteem it a great favour, if, at any time, you would insert some more information useful to candidates, with some of the papers, classical or mathematical, set at recent 1st B. A. examinations, especially the papers on English Language and Literature.

I enclose a communication, which I received a short time ago, of which, of course, I took no notice, and of which you may make any use you think proper. It may afford you a theme for a few comments, that is, if you think it necessary to caution the scholastic profession against such agents as the one who tried to get 5s. from me by making such an alluring offer, which probably is an imaginary one, and which no doubt, was presented to many

others, with the view of obtaining from all the above-mentioned entrance fee.

I am, Sir, with best wishes for the success of the *Quarterly Journal of Education*,

Yours respectfully,

ALFRED WINNIFRITH.

Permit me to direct your attention to these offices as a desirable medium for obtaining pupils. With a somewhat large connection I have numerous applications from parents and guardians, one of which I beg to submit to your notice, in the hope that we may be able to do business together mutually advantageous. "Wanted to place a boy of 10 years in a good school where he will have every care and attention, and be thoroughly fitted ultimately for professional life. Terms, which must be inclusive, not to exceed 50 Guineas per annum." Should this appear at all suitable and you are willing to accede to my conditions, it will afford me much pleasure on being favoured with a reply, together with Entrance Subscription by Post office order, to lose no time to bring our negotiations to a successful issue.

The above is the communication to which our correspondent refers. It speaks for itself without need of comment.—ED.

### ON SCHOLASTIC AGENCIES, &c.\*

*To the Editor of the "Quarterly Journal of Education."*

SIR,—I will admit that there is to my knowledge *one* respectable Agent—possibly there may be more, in the metropolis; but I will give it as my experience that, if I could procure competent assistants without using that channel of communication, I should very willingly do so. To principals, I can well imagine it must be less expensive than by advertising in a London or local paper, because, in resorting to the latter course, you lay yourself open to receive applications from such a mixed set of candidates. Agents, as a rule, profess to recommend only those whom they consider eligible, but I have learned from sad experience that they are not to be trusted as judges.

On one occasion, being in want of an assistant master, and that at a "push," I determined upon going to the *head of the well*, and accordingly placed my "wanted" in the hands of the proprietors of the *London Times*: three issues, and I had applications from hundreds of individuals professing arts quite unknown to the generality of plain teachers. I was led into no end of expense from having to return, as a certain amount of honour would dictate, *cartes* of hirsute *savants*, looking gloomily through spectacles, as one would suppose, of every imaginable hue. I had in those applications penmanship the most various, some so markedly plain that running you might have read, in fact, *too plain* for any purpose of imitation; others so Tamulian-like in character, that an adept in deciphering would have found it a puzzling undertaking.

One aspirant being brother to a clergyman, made that a *considerable* qualification; another's father was author of some abstruse tome (the title of which I forget), and therefore who could question *his* fitness for any scholastic position! a third had studied on the Continent, and had therefore amassed a profundity of erudition worthy the consideration of the most fastidious employer; a fourth had been for six months "vice-principal" of a certain institution, or "senior assistant master" of some collegiate school, the name of which ere this must have vanished from his memory, as it has from mine—and so on.

\* An article will probably appear in our next issue on this subject.

Well, my choice fell upon a gentleman of *birth and education*, described as such, educated, forsooth, on the Continent; and, fishing for a pearl, I caught a Tartar—one who, with the exception of a little conversational French, picked up probably as a mason's "hod" or a huckster's porter, was the veriest dunce—not to say fool—that I ever came in contact with. Talk of controlling boys!—well, I must avoid this part of my experience and *his* as being torture itself to call to mind even.

But to return to the subject of my letter. My impression is that the cardinal mistake in the management of *Agencies* is, *that filling of vacancies in a trade point is too much the object*; that too little attention is paid to the real amount of *teaching* power possessed by those whom they recommend; that proper inquiries are not made at the hands of the last employer as to the disposition, &c., of the individual in question. An important matter for the agent to know is whether the young man for whom he is negotiating has decided upon making the calling of teacher the object of life, or whether he is employing it merely as a stepping-stone or means of living until he becomes eligible, either by age or qualifications, for some post under government, for it may be laid down as an axiom that, where an assistant has the poker, shovel, and tongs in the fire at one and the same time, you are likely to have *your* business neglected. I have found it so, and very likely it is the experience of others in a similar position. Then, again, I often deplore in under-masters that indifference to become in some degree proficient in their calling. With leisure at their command for the acquisition of almost any subject, you see they prefer dribbling and frittering their time away on some *novel* that contains neither sentiment nor sense. I have heard an assistant say before now, "I wish I could sketch, or knew algebra, or had studied chemistry, or read-up in natural history," and so forth, as if at twenty-four it were too late!

It may appear strange, but, as truth is said to be stranger than fiction, I will give you one or two facts, very simple in their nature. I never had an assistant yet who could rule parallel lines with red ink, or rule either double or single lines with a lead pencil for a juvenile's letter, without doing the former like cart ruts, and the latter so heavily as to be quite indelible! How rarely will you see an assistant interest himself in the general deportment of your pupils, their behaviour at table, the way they express themselves to their superiors or to one another in school or during the play hour; and yet no one would presume to say that these are not a principal's duties; why not, then, his helper's?

Now it would appear, from what I have already written, that I am one not well disposed towards assistants generally. This is quite a mistake, for I acknowledge their usefulness, and have felt it; but what I am aiming at is the discouragement of empirics who are sent from school to school *quarterly*, to swell the incomes of trafficking agents, who, having respect only for their own pockets, guzzle their per-centage, and are ready for the next idiot who may come to net.

As we are promised an article on the same subject from the pen of a gentleman infinitely more able to deal with the subject than I am, permit me, in conclusion, to apologize for the length of my letter, and to subscribe myself,

Yours faithfully,

J. P.

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*To the Editor of the Quarterly Journal of Education.*

PUDDLINGTON HALL ACADEMY.

SIR,—I write to make a practical suggestion which has just come into

my head, viz., an extension of the parlour boarder system. Now-a-days people are very particular as to whom they let their children keep company with, and we, who are in the school business, are often puzzled how to get over this difficulty. I nearly ruined my school, three years ago, by taking in the grandsons of a bailiff, and I know I have lost the sons of many respectable people in the neighbourhood, because they didn't like the notion of their lads mixing with other pupils of mine. Gentility goes a long way; if it didn't, what would be the use of my calling my place an academy?

Schoolmasters must move with the times, and here is the plan I propose. Let us take in all classes of boys, from the artisan's to the respectable farmer or tradesman's, but on different terms and conditions. Let us have a *sliding scale of fees*, and separate our pupils into classes according to their proficiency in payment, not in study. For instance, the lowest rate at which I take any lad is eighteen pounds, with extras, except the sons of preachers of my own denomination, who have two guineas taken off if they sleep in the same bed. Well, suppose any parent chose to go the length of thirty pounds for a lad, he should be called head of the school, be treated as a member of my own family, go out to tea with Mrs. S., and do as little work as he liked. Lads who paid twenty-five pounds would be called monitors, and associate with none of the rest. For twenty-two pounds ten shillings a boy might be a prefect, and be treated almost as well as the monitors. We could have several classes of this sort, each with its own privileges and amusements, and my ushers would see that none of the boys presumed to speak familiarly to his superiors in the playground. No lad who paid less than twenty pounds would be allowed to have pudding, and those who paid more wouldn't be obliged to do Latin. So you see I could take in boys of all classes at the same time. Of course there would be no corporal punishment among the upper classes, and they would sit in the front seat at church if their clothes were good enough.

I think this is one of the finest educational ideas that has been proposed since the introduction of steel pens, and other cheap scholastic apparatus. The advantages of the plan are easily seen. In the first place, we should make more money. Then this division of the boys would be more like that which they will find in the world when they grow up. It seems an unnatural thing that a rich grazier's son should get knocked about by a young ragamuffin whose father has been in arrear these last two quarters; but I'll answer for it that he doesn't try it *again* in a hurry. Thirdly, I am told that this plan of classifying lads according to what they pay is the one adopted at Oxford and Cambridge. I wonder no one ever thought of introducing it into schools before, and,

I am, yours truly,  
W. SQUEERSON.

### SCHOLASTIC AGENCIES.

*To the Editor of the "Quarterly Journal of Education."*

DEAR SIR,—Permit me to reply to the *Rectangular Reviewer* with a few plain facts. I employ in this letter the word "Agent" strictly in the Reviewer's sense, without direct reference to any particular Agent. My letter should have appeared in the last issue.

1st. That it is an Agent's constant labour to obtain a full knowledge of the character and attainments of the men whom he introduces to each other, and that in introducing assistants he anxiously considers their probable fitness for the post, &c.

I assert (1) that in nine out of ten cases, he knows nothing of the character of the assistants who apply to him, and generally less about the principals,

In support of this assertion, I say he has, to my certain knowledge, forwarded the addresses of gentlemen wishing to have suitable and respectable assistants to a man whom I regret to state was a drunken, swearing, debauched, and profligate clerk, and who was obliged to leave his then situation for unmentionable immorality. I do not blame the Agent for his bad character, but I do protest against the "Cant" of this article in the face of such a case, similar to which I know others equally startling.

That (2) he does not know the attainments of all his clients, I dare without hesitation assert. That he may know their own account of them, there is no question. He registers a summary of the schedule filled up by the candidates, but unless they possess recognized diplomas, *he* cannot distinguish between one who can just crawl through a few chapters of Cæsar without understanding the principles of Latin Grammar, and (what is of primary consequence) utterly ignorant of the principles of *communicating* elementary Latin, and a thorough teacher of that language. Both are registered by "The Agent" as teachers of "Classics."

It is very possible that "Agents" may sometimes know the status of the Principal, but so far from such knowledge being a *sine qua non* of his giving immediate attention to the needs of his client, I am stating my experience when I tell you that he sends for assistants to meet gentlemen of whom he never heard, and of whose schools he could give no description, that he sends applicants to some of the most outrageous establishments in the kingdom, the master of one of which I know to my cost, is an audacious hypocrite, and one of the most illiterate schoolmasters I ever met with in the profession. That the practice and the precept of the "Agent" have little moral resemblance, is, I think, beyond question.

2nd. That the agent is chiefly supported by the most respectable schools, &c.

It will appear evident from my preceding remarks, that the "Agent" seldom considers the respectability of a school, except in regard to the probability of its being a profitable one for *himself*; and as Mr. Smith observes, the worst schools change masters most frequently, and are in consequence, the best for the "Agent."

3rd. If the "Agent" fails (or does not care,) to ascertain the character of the *English* assistant, how in the name of patience, can he fortify himself with an intimate knowledge of the moral habits of men, who, many of them, reside in a Foreign country, and are generally characteristically different from Englishmen.

When Mr. Walpole displayed his incapacity to deal with the difficulties of the Home Office, why did he not go and be Minister of the Interior of France? How does the "Agent" acquire his "special capabilities and facilities for determining the moral and social character of Foreign Masters?" Does he travel abroad like the *Wanderer*: does he make an educational tour like Mr. Matthew Arnold, or does he, like Dr. Morell, study the philosophy of national discrepancies, or does he subject his foreign clients to a rigid investigation of their antecedents and moral tendencies? To determine the moral cast of a foreigner, without living in the same house with him, is, I think, a very difficult task, and one which the "Agent" seldom either undertakes or accomplishes.

Next with regard to the agent's estimate of the education in which he deals; judging from the "forms" so ably criticised in a former issue by Mr. Valentine, there can be but one opinion on this head. I do not think, however, that a scant knowledge of scholastic subjects is incompatible with the equitable performance of the duties of an agent. We want honesty rather than learning; truth rather than puffing.

I shall add a few general remarks, and, perhaps, what follows may prove interesting to some who do not understand the wonderful feats of legerdemain an "Agent" can perform.

The "Agent" will often assure each candidate for a certain post that *he* is the most likely person to get it. What subjects do you teach? said an "Agent" to me on one occasion, when a stranger to *him*, and partially so to myself, was expected to call. Hearing part of my reply, he assured me that the situation was *mine*, although I found afterwards that more suitable men came on the same errand as myself; and my assurance of success resolved itself into certain disappointment through unsuitability. Every man who can teach mathematics or classics, cannot play the fiddle or dance a hornpipe; and it is not a crime if he cannot give experimental lectures on chemistry.

I was once at an "Agent's" when a Rev. gentleman from an Establishment, conducted most religiously—denominational in fact—required an assistant, and several gentlemen had been summoned to meet him at the "Agent's" offices. One of the expectant candidates declared himself ready to conduct prayer-meetings, preach sermons, and in short, do any act of hypocrisy, for he boasted before all present that he himself believed in no religion, that all sects were alike—rogues whose only aim was to get fools' money, and *he was prepared to second their efforts*, if the client of the "Agent" should lack sufficient penetration to perceive his true character. This same "Gentleman" affirmed that he had held good positions, but had lost them through getting "on the lush." The "Agent" heard all this and swelled the chorus of laughter which greeted the recital of our "Gentleman's" principles of action, and these pleasing historical reminiscences of a — man whom the "Agent" was going to introduce to a principal of well-known piety, *though a dissenter can hardly lay claim to such a distinction!* At least the "Agent" and his clients seemed to think so.

Once I obtained a place without the introduction of an "Agent," and at once made him aware of the fact. Notwithstanding my prompt communication to him, he continued to send me notices of vacancies, chiefly *in the neighbourhood of my new situation*. The "Agent" then wrote my employer a "disgusting and impudent letter," complaining that although he, the "Agent," had rendered him services on former occasions, he got his masters from other agencies. This statement was a falsehood, and as my employer requested an explanation, the "Agent" sent him a clumsy apology, viz., that the letter referred to, had been addressed to him in mistake; and yet when the same principal engaged another assistant through the same office, the "Agent" sent a similar letter of complaint, which is in my possession.

The iniquities of the "Agent" are not yet exhausted. A friend of mine, having relinquished a post which he had held on the Continent, made application to some offices in England. Immediately he secured a situation to his mind, he wrote to one agent to the effect that he had been suited by a different office, and that he should require no more notices of vacant posts; but this indefatigable "Agent" persisted in forwarding to him many of the most absurd circulars it is possible to imagine, some of which cost my friend a trifle for extra postage. This he continued to do for several weeks, although he had been informed of my friend's engagement a second time. This is not all. My friend undertook to negotiate for the introduction of a French master for his late employer. This he succeeded in doing without his mediation, and acquainted the "Agent" with the fact accordingly. The "intermediary," with his indomitable impudence, demanded the name of the successful French tutor, and being frustrated in this respect, he avenged his discomfiture by sending anxious candidates to my friend after this situation during seven subsequent weeks! My friend also desired to find a successor for the Foreign establishment, and one was secured independently of this agent's aid, who was again requested to cease his communications. He replied by sending three or four applicants daily, for a month afterwards. Some may

think such procedure incredible, but I have the letters which those deluded assistants have sent ; and any gentleman can see them.\* Do not these facts account for what one gentleman declared to me a few days ago? That an agent sent him notices of forty vacancies, concerning fifteen of which he wrote letters, and received but *one* reply, and *that* was worthless. On the other hand, I may state, the Secretary of the College of Preceptors advised him of *four* vacancies, from *two* of which he got answers to his applications, and *one* of them he obtained to his entire satisfaction. This same agent once introduced the writer to a good post, but the next communication from that marvellous benefactor of half-paid ushers appeared in the form of a "little account," the necessity of punctual attention to which was politely implied.

Comment on these indubitable facts is, in my opinion, quite unnecessary. It remains for other gentlemen of our profession to prove them to be exceptional instances. The evil admits of a simple remedy. We must stick to our Journal, to ourselves, and leave the "intermediary" to his deserved fate.

The Council of the College of Preceptors is stirring in the right direction, and I should suggest that a general meeting of the masters be convened for the purpose of drawing up proposals to them on this subject. Their agency is honestly conducted, as far as I have had experience in connection with it ; and their fee for *members* of the Corporation is 10s. for each appointment—a reasonable commission, which might be advantageously extended to *all* assistant masters, without diminishing the receipts of the agency department. It would doubtless operate like some of Mr. Gladstone's splendid financial *coups d'état*.

Hoping that the irrefragable testimony of the above facts will be some apology for the length of this letter,

I am, dear Sir, your obedient servant,  
THOMAS MITCHESON.

## OUR SCHOOL BOOKS.

*Cassell's Technical Series.* Continued from p. 310.

THE very name "Technical" conjures up the sight of so many racy articles, and ponderous tomes, that one feels a diffidence in entering this grand field of controversy. Yet there are few real educationalists who have not individual and as yet private opinions upon the subject of "technical education." The great Exhibition of 1851 set the ball rolling, and periodically it receives a new impetus thereby gathering energy in its onward movement to overcome the numerous obstacles which beset its path. In 1851 English workmen were patted and praised, belauded and flattered to a degree quite sufficient to turn the brains of a less phlegmatic race. We had reached the zenith of our glory, our manufactures stood before the world unrivalled in thorough and durable workmanship. But our joy was tinged with sorrow when we glanced at the elegant and chaste designs of continental workmen. Since that time we have taught the "nations" how to work, without any adequate return from them. True, our designs are notable for ponderosity and durability, but we utterly ignore the beautiful, the graceful, the artistic ! Is it beyond our powers to grasp the beautiful as well as the durable ? This is a question very easily answered—and that truthfully, with a direct and decided negative. I have had some little experience amongst artizans, and I believe them to be as able to appreciate "beauty" and "harmony of proportion," as they are "good workmanship." "Give us

\* I do not affirm that these statements are true, although I have no reason to doubt the veracity of my informant.

the same chance as the French, and we will be as good as them" is the cry. "Let us be trained on every hand, from earliest infancy to maturest age, by a sight of all that is beautiful. Give us the best models that can be obtained, and we *will* at least equal, if not improve upon them.

"Let our architects and engineers be a little more radical in their constructions, and not cling to old fashions and old plans, which, although satisfactory in mediæval times—when ignorance combined with brute force reigned rampant,—are out of place and out of date in these times of activity, learning, and progress. Museums should be opened, lectureships instituted, and means taken to supply all that is required, not with the niggardly hand of a paternal Government, but with the liberality of a rich and enthusiastic admirer of science. Unfortunately it is a peculiar idiosyncrasy of the English nation, that a decade of hard and continued hammering is required to impress the fact that some great change is necessary. And even when an impression is made years are consumed, and millions wasted in experimenting as to the best means, for carrying out the wished for improvement."

The Government have recognised the necessity of a "technical education," and in a manner have provided for the necessity. The "Science Department" is an actual fact—it really exists! Do Englishmen know this? Are they aware that an annual blue-book is issued depicting in glowing terms the *wonderful*, nay, *almost miraculous* progress of the past year? The report teems with congratulations, so I suppose something is done. The "mole" works assiduously, but the greater part of its work is invisible—stay—"comparisons are odious"—so I will not continue the strain any longer.

One benefit the "activity" of the Science Department has conferred upon the community, viz.—it has induced publishers to issue really valuable text-books, treating more especially upon the "technical" portion of education. Such is the "science" series now being published by Messrs. Longmans—a series which promises to be of the greatest value to students.

Another series still more "technical" in its tone is the one mentioned at the commencement of this article, and I propose to call the attention of my readers to this latter series. Having for some time past taken an active part in the formation of science classes, and having used the books of which I speak with students, I may be allowed to give a practical opinion as to their merits and demerits. Taking the latter first—I would strongly impress upon the authors and publishers the necessity of providing adequate examples to each book, so that the student may be enabled to practice as well as read. These examples should be of a practical nature, such as are likely to be of service in performing work. Take, for example, the books on Plane and Solid Geometry, of which, by the by, the latter contains numerous examples, but the former has none. It would be very easy to select questions for carpenters, engineers, &c., such as they would meet with in every day life. Then, in many instances, the illustrations are very inconvenient; it frequently happens that the letterpress explanation is on the opposite side of the leaf—or even in some cases two or three pages from the woodcuts; this is a defect which might easily be remedied, and indeed, in some of the books—the Practical Perspective, for example—it is remedied. I would have the same plan carried out in the "Projection, &c." In the "Linear drawing" examples should be given similar to those given in the "Science Examinations." As it is, a student would have no idea of what to do in the following, unless he had the aid of a master. "Draw three equal circles of 75" radius, each one touching the other two" (Quest. 1. Science Exam., 1871). These may be minor defects, nevertheless it would be found that some slight alterations in this direction would be fully appreciated by every student. Turning to the merits of these books, I can afford to speak with enthusiasm. I can safely assert that I have never seen any works which seem to be so thoroughly adapted to supply the wants of students. The style



is very simple, the illustrations ample, the type clear and legible, and the size and price just what is required.

They are evidently written by a master-hand, by one who thoroughly knows the difficulties which students meet with, and is able to direct succinctly and clearly—there is no extraneous matter, but every word points directly towards the conclusion.

I intended to have said much more, but space is wanting, so I must simply express a wish that the publishers may be justified by ample success, in making this effort to place before the public such an excellent series of books.

## REVIEWS OF WRITERS FOR BOYS (?).

### III.—MR. W. H. G. KINGSTON.

IN this series of reviews we have been anxious to recommend first the realistic class of boys' stories, tales of every-day school life to wit, seeing that tales of adventure, of daring exploits, of wonderful escapes by flood and field, form the numerical majority among boys' books, and stand in far less need of recommendation. Boys are only too fond of exciting tales, and the means of gratifying this taste are abundant in quantity if not very valuable in quality. Unfortunately there is little criticism to encourage merit and banish worthlessness in this department of literature, and the purchasers of presents for young people are too apt to look at the binding and illustrations of a book rather than at the manner and matter of its contents. "Enterprising" publishers take advantage of this carelessness to flood the juvenile book market with cheap and trashy tales which, if they do no more positive harm, unsettle the minds of their readers and unfit them for more wholesome nourishment.

Far be it from us to proscribe all tales of adventure. Shall we indict Robinson Crusoe? In moderation, and when well and sensibly written we welcome such tales, even though they do make our boys neglect their lessons or tempt them to run off to sea. Some boys are born to be sailors, settlers, hunters, and perhaps these books draw them to their true vocation and prevent them from uselessly wasting time over stupid Latin grammars. But this is heresy, and on no account must be repeated in the ears of idle school-boys.

At the head of writers of this class stands the veteran author Mr. W. H. G. Kingston, anyone of whose innumerable books we should have no hesitation in placing in a boy's hands. Many years ago when we were writing not criticisms but exercises and more familiar with the correction of sums than of proof sheets it fell to our lot to receive a prize from the hands of the Prince of Wales, then a chubby, smooth faced boy whom we should have liked to examine as to his own studies, but whom we nevertheless regarded with curiosity not unmingled with awe. We were naturally in a state of great pride and elation, and every circumstance connected with the ceremony has remained fixed in our memory. His Royal Highness wore primrose-coloured gloves, and the book with which we were presented was Mr. Kingston's "Peter the Whaler."

A slice has been taken out of the century since that day, but last Christmas two or three books still bore witness to the indefatigability of this author, who seems no more to tire of writing than boys do of reading his books. In the interval he has published nearly *one hundred volumes*, besides editing for some years a boy's magazine, which was the best of its kind, but which

failed for want of the support it deserved. And a new volume of his entitled "In the Eastern Seas" which now lies before us, makes us envy the boys of the period and long to be boys again that we might be able to receive Mr. Kingston's books as prizes. The price of this book is only six shillings, the binding of it would anywhere but in the English book market be considered extraordinary, it contains six hundred closely printed pages of narrative, interwoven with such geographical and scientific information as will be interesting to boys, and as far as we can guess about a hundred excellent illustrations. What lucky fellows boys are! We only do Mr. Kingston and his publishers justice in praising the "get up" of these books, but at the same time we desire to enter our most vigorous protest against the meretricious charms of modern literature for the young. It would be hard to say whether the fault lies most with the public or the publishers, but the fact is that most books of this kind seem now-a-days to depend for success upon a showy, trashy style of binding, which is useless except on the shop counter, and hurriedly drawn pointless illustrations, which one would think even boys ought to despise. The expense of this ornamentation is great, and as cheapness cannot be sacrificed in this enlightened age, the literary part of the work has to be done at a lower price and of inferior quality. If people wish good writers to write good books for boys, they must set their face against gaudy books.

Though Mr. Kingston first became known as a writer by a book called "Manco, or the Peruvian Chief," his favourite subject and the one in which he seems most at home is the sea. "Peter the Whaler," "Salt Water," "Will Weatherhelm," "Round the World," these titles speak for themselves. Even when he gives us an historical tale as in one of his recent books, "John Deane of Nottingham," he is pretty sure to get his hero on board ship. The adventures his characters meet with there are interesting without being sensational. Mr. Kingston's books are full of fun, even of rollicksomeness; but there is nothing coarse or unwholesome in them. Amusement and instruction go very happily hand in hand in his pages. A boy who has read one of his books is only sensible perhaps of having spent several pleasant hours, but the chances are that he has picked up a great deal of very useful information. Above all Mr. Kingston's tone is eminently Christian and manly. His readers receive good, honest advice, without having it thrust upon them in that long-faced didactic manner which is so repugnant to the mind of boyhood. We know no other writer for boys, who teaches such sound lessons in such hearty and friendly words.

Mr. R. M. Ballantyne may be mentioned as a writer in the same style and with the same good tone. Unfortunately, we cannot lay our hands on any of his books, at this moment, but we know enough of them to be able heartily to recommend them. We hope parents and teachers will take our advice and make choice of such books to give as presents or prizes, not only discouraging their boys from wasting money on worse than valueless tales, but refraining themselves from buying trashy books which have no other recommendation than cheapness and showiness. It is owing, we repeat, to carelessness on their part, that in this department of literature, conscientious and skilful work has not at present its due reward.

A. R. H.

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### OUR BOOK-SHELF.

*Outlines of Technical Knowledge.* A First step in Technical Education. By D. MURRAY SMITH. Author of "Outlines of Scottish History," etc. London: W. Kent & Co.

ONE of the Series of text-books called "Ince & Gilbert's Outlines," though it does not appear clearly what Messrs. Ince & Gilbert have had to do with

the composition of these books of the Series not written by themselves. The present volume includes in the compass of about 150 pages, something about all the following arts and sciences : Physiology—Natural Philosophy—Electricity—Magnetism—Chemistry—Metallurgy—Geology and Mineralogy—and also something about Machinery and Mechanical Powers—which the author does *not* include under the head "Natural Philosophy."

How far it is possible to teach the sciences named above in so small a compass, we must leave to those who *know* all the sciences in question to determine. It is easy to imagine objections to such a plan. It might be thought that "outlines" of a whole science comprised in a few pages must be either such as to give a mere smattering of the science, or a mere epitome, useless without expansion and explanation—and that both the copiousness of illustration necessary to make a book interesting and popular, and the close and detailed reasoning and thorough explanation of principles which a scientific text book, intended for study, would require, must alike be wanting.—But it would be going too far to decide from considerations of this kind, that such a book as this must necessarily be useless ; and we may allow that whatever may be the objections to its plan, it would be acceptable for some purposes to some readers, if the book itself were made as good as its plan permitted.

And the book in question does seem to be rather well written than otherwise. It is not a mere dry compendium of facts, it is not mere shallow and showy talk *about* the sciences of which it treats—but contains much real information, given apparently in an intelligent manner, and with some literary ability. It will probably be found sufficiently interesting to make a good "reading book", and it is as such that the author himself recommends that it should be used.

J. C. V.

*Elementary Exercises on the New Testament.* By Miss BROWN, Author of "Historical Recreations." London : S. D. Ewins, Jun. & Co.

THIS book contains nothing but questions, without their answers, on the text of the New Testament, with no appearance of any attempt at order or arrangement, and with little, if any, hint at any explanation or interpretation, or at anything beyond what is contained in the text. To teachers who need such questions, and prefer to get them ready-made rather than to take the trouble of making them for themselves, the book may be acceptable—it is at any rate neat and well got-up.

J. C. V.

*Advanced Text-book of Zoology, for the use of Schools.* By H. ALLEYNE NICHOLSON, M.D., D.Sc. &c. Lecturer on Natural History in the Medical School of Edinburgh, Author of "Manual of Zoology," &c. Blackwood and Sons : Edinburgh and London.

THIS, as one of a Series of Natural-Science Class books, shows the same marks of care, and attention to Typographical details which students, accustomed to use other books of the Series, must have appreciated. The execution of some of the illustrations, however, is far from good, and this is to be regretted, for the work, in that respect, will suffer in comparison with other Text-books issued by the same publishers or with such a Manual as Greene's.

To Teachers, the book has the recommendation of being the work of a practical Teacher, for only such can fully estimate the importance of clear arrangement, of terse yet accurate definition.

We quite concur with the author in believing, "that the time is now approaching, if it be not already here, when the Natural Sciences will take their true place in School-education, as second to no other branch of knowledge, either as regards their intrinsic value and interest, or regarded, merely, as a means of developing the mental powers." Still we do not altogether agree with him in understanding "the term Natural History as being, now-a-days, equivalent to *Zoology* alone."

By the use of large and small type the book is so arranged that the leading paragraphs may be read as a first course; all minute distinctions, or modifications of general statements, forming supplementary paragraphs which may be left for the second course of reading, or dealt with as the Teacher thinks fit. This discursive matter is, however, by no means the smaller portion of the book as to extent, nor less valuable as to its importance, for it presents the most recent views of the most industrious workers in special fields of Physiological research.

The systematic plan of the book begins with the inert and lowly Gregarina, and ends with him who is to "have dominion over the fish of the sea, the fowl of the air, and over every creeping thing that creepeth upon the earth." At least two-thirds of the book are devoted to the Invertebrata, and for school-work this is an advantage, as that division of the Animal Kingdom can be most conveniently illustrated. The Classification is based upon the most recent methods, and vexed questions of Biology or comparative Anatomy are treated clearly and concisely.

We can very cordially recommend the work, and feel sure that an earnest Teacher, with the help of a Microscope to illustrate the earlier sections of the book, with a few specimens for class-demonstration, and with a full belief in the power of Natural History to interest intelligent observers, cannot fail to awaken mind, and at the same time to train his pupils to habits of correct and profitable observation.

We warn our readers, nevertheless, that the use of the book will call for much explanation on the part of the Teacher, for the book is of a different order from Patterson's Zoology, or Chambers', or some others still in use, which, in their mode of treating the subject, have made little or no advance since the days of Cuvier.

F. B. A.

*Il Piccolo Precettore, or First Steps to Italian Conversation—a translation of Le Petit Précepteur.* By F. GRANDINEAU. Hodder and Stoughton, 1871.—Pp. 174.

THIS little book, in its French dress, has been long and deservedly a favourite in the school-room, being admirably adapted for teaching children to talk French. The only difference in the Italian version does not appear to us an improvement: viz., the substitution of a selection of Italian poetry for the copious vocabulary at the end of *Le Petit Précepteur*. The poetry is too difficult for the pupil to read immediately after the easy dialogues, and some exception might be taken to the pieces chosen, which are largely of an amatory kind, while the rest of the book is manifestly written for young children.

It would perhaps be better in conversational Italian that the Second Person *singular* should be used among children, but this defect, if it be one, is shared by *Le Petit Précepteur*.

MATER.

*Murby's Scripture Manuals—Joshua and Judges.*

THIS is another of those manuals called into existence by the Oxford and Cambridge Middle Class Examinations, and we are disposed to think it a useful one, while fully agreeing with the opinion expressed in the preface, that it would be better that each student should write his own notes and abstract, as knowledge acquired with little trouble is generally retained but for a little time.

MATER.

*A Handy Book on Health.* By G. A. CAMERON, M.D. Second Edition. Cassell, Petter, and Galpin.

MR. CAMERON has written an excellent little work upon a very interesting subject; and we would strongly recommend all who care about their own health, or the health of others, to read this small manual. It consists of ninety-five pages of closely printed matter, written in a graphic and understandable form; technical and scientific words being as far as possible carefully excluded.

The book is divided into eighteen short chapters, the first of which is wholly historical, the remaining portion being entirely devoted to the consideration of the subject in hand. The information is generally accurate, and it is to be deplored that in one or two cases the author has made statements which are not yet settled—*e. g.* relative to the destruction of the vitality of organic and other germs by boiling, p. 18—the test for ozone, p. 20. The chapters on ventilation, food and diet, diseases of animals used as food, digestion and indigestion, sanitary conditions of towns, and disinfection, are particularly useful. We have marked several passages for quotation, space, however, being limited, we must refer our readers to the book itself, but would especially direct attention to the remarks on the wind as a ventilator, p. 31; the functions of animals and plants, p. 39; the bath, p. 69; on female clothing, tight lacing, &c., p. 72; and the furniture of houses, p. 80. We believe this little work will prove as the author desires it should be a "suitable educational book for use in schools and colleges."

C. H. W. B.

*Stories of French School Life.* 5s. By ASCOTT R. HOPE. Author of "Texts from the Times," "Stories of School Life," "My Schoolboy Friends," &c., &c. W. P. Nimmo.

WE are sure that the readers of this Journal will heartily welcome any new work by the facile and graceful writer whose productions so frequently enliven our pages. The present generation, besides actively participating in wrongdoing—perpetrates a kind of negative wrong. It looks with the utmost complaisance upon the mass of trashy literature intended to "feed" the young, which issues in such immense quantities from the press; scarcely a complaint being uttered or an effort made to stem the torrent of debasing and demoralising publications which circulate so widely amongst the youth in all our large schools and in every town.

It is refreshing to meet with the productions of men whose sole aim is to supply interesting books characterised by extreme healthiness of tone, and tending to raise, rather than depress, the natural spirit of emulation. Such are the books of our author—and we are glad to be able to recommend this new work to all who feel an interest in what their children should read. The fun of the French schoolboy is of a different kind to that of his English compeer, and many boys will no doubt be highly amused at the peculiar punishments awarded for misconduct by the French schoolmaster. The book contains three tales entitled respectively "The New Master," "The New Boy," and "The New Book;" of which the first seems to us by far the best. We hesitate about giving an idea of the contents, as any attempt at condensation would be an injustice to the author, so we must necessarily refer our readers to the book itself.

There seems to be an excellent moral easily derived from each tale—the first would prove that a really good, well-intentioned master, must ultimately gain the attention and respect of his boys—the second shows most unmistakably that although one may reign supreme in his own narrow limited sphere, he is not looked upon as a prodigy, or anything out of the common when brought into contact with the world, the boy may be everything at home, but a mere nothing at school, and graces there will surely bring a rich reward; and lastly, we may glean how adversity and calamity prove the best means for counteracting the evil effects of laziness.

The want of space forbids us to say more, but we cannot leave this work without expressing an earnest wish that the efforts of the author to raise the tone of boyish literature may not be without fruit, and that his efforts will be seconded by the efforts of all right-minded men who have the welfare of their own and others' children at heart.

C. H. W. B.



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SUGGESTIONS FOR THE REFORM OF GEOMETRICAL  
TEACHING.

**T**S Euclid to retain its position in this country as a text-book, or rather the sole text-book, of geometry?

It is not enough to say, that this question is now fairly raised; it is being thoroughly discussed; and a decision, one way or the other, cannot be long deferred. No competent geometrician who has studied his subject fairly, no earnest geometrical teacher who has paid proper attention to his work, can fail to be impressed with Euclid's defects, and can, if he be candid, avoid admitting that his Elements "swarm with faults." The more closely the book is examined, and the more attentively the results of its use as a text-book are noted, the more faulty does it appear. Even Todhunter,—who is so strong an advocate for the retention of Euclid, as to rejoice at what he considers the failure of the "numerous attempts to find an appropriate substitute," which attempts, he goes on to say, "fortunately have hitherto been made in vain,"—admits that "defects and difficulties occur in the Elements of Euclid, and that these become more obvious as we examine the work more closely."\* It occurs to one to observe, by the way, that such an admission is hardly consistent with the regarding the failure of all attempts to find something better as "fortunate"—but let that pass—the point to note is, that even the strongest friends of Euclid allow, that on accurate investigation the book is found to be full of defects and difficulties. Then again, thoughtful men who are acquainted with the fact, that among the most cultivated nations we alone retain an exclusive adherence to Euclid, have felt the disadvantage, under which we labour, of being separated in this respect from the practice of the educated world; or at all events have justly thought that the grounds for our exclusive and unique position demand careful and thorough investigation.

Within the last twelve months considerable progress has been made towards the settlement of this question. The resolution passed by an almost unanimous vote of the Head Masters of the leading Public

\* Preface to edition of the Elements of Euclid,

Schools, at their meeting held at Sherborne in December last, "that the Committee be instructed to confer with the Government, the Universities, and other Examining Bodies, with a view to securing greater latitude in the use of Geometrical text-books," is too important a fact to be ignored. If the evils of the present exclusive adherence to an antiquated treatise had not been forcibly pressed upon their attention, alike by the dictates of common-sense, and by the results of experience, they would hardly at their first meeting, with the number of educational questions urgently requiring their consideration, have with so much unanimity called for more liberty in this matter. Almost simultaneously with the passing of this resolution, an association was formed for promoting the improvement of geometrical teaching, with the avowed object of finding a better text-book than Euclid, and at once secured the adhesion of a large number of the most able and earnest of the mathematical teachers of the country. With these facts before us, we are bound to conclude, that the question of geometrical teaching, and especially of the text-book to be used therein, is one of the most important and pressing of the many educational questions of the present day; that serious dissatisfaction exists; that the desire for reformation is widely spread; that the convictions of many most competent authorities are earnest and strong in favour of immediate change; and under such circumstances as these, it is not too much to say that the question is ripe for decision.

For it must not be supposed that this is mere idle agitation. Some change in this respect is absolutely necessary. When so many new subjects, all having an undeniable claim, are demanding a place for themselves in our educational curriculum; when so many old ones, amongst them notably geometry, are imperatively requiring that attention should be paid to their great developments in modern times; we must try whether it be not possible to teach the old branches of these old subjects, in a shorter time, with less expenditure of mental force, by the use of better books and methods. It certainly becomes at once obvious, that we cannot afford to give so much time to the particular points of geometry included in Euclid's Elements, as their study in that curious old treatise entails. We must make opportunity for acquiring some knowledge of the many valuable modern developments of the subject; we must find time for many other branches of mathematics, which too rarely occupy a place in our school course; some branches at least of natural science must be taught, to say nothing of the many departments of language and literature, which are now well nigh excluded from our education.

Then again, the geometry learned should be more readily available for practical application than Euclid's Elements. It must be remembered, that Euclid studiously avoided anything of this kind, because in his day it was thought to be a degradation of philosophy, to connect it in any way with the practical purposes of life; as Macaulay tells us, "ancient philosophy disdained to be useful," and "could not condescend to the humble office of ministering to the comfort of human beings," "an office" which "all the schools condemned as degrading."\*

\* Essay on Lord Bacon.

But in this age and country we cannot afford to lose sight in any subject of its practical side, which to us rightly seems the most important. While the science, then, of geometry must be accurately and fairly developed from its own first principles, yet it must be developed in such a way that at each step its practical bearings may be readily traced. This is absolutely necessary for the adequate training of the numerous students, who are preparing for the army, engineering, and other professions in which scientific knowledge is required, as well as for the purpose of the art-training of the masses of the people. Until Euclid is expelled from our seminaries of learning, geometrical science will never attain to all the practical developments of which it is capable.

At present the efforts of all interested in this important question should be directed to these two points:—first, to the influencing of the Universities and other Examining Bodies, to carry out the resolution of the Head Masters' meeting at Sherborne, by introducing into their respective examination schemes, instead of Euclid, or so many books of Euclid, corresponding portions of geometry, to be studied out of any text-book; and by setting questions which may be answered out of Euclid, or any other elementary treatise on geometry, indifferently;—and secondly, to the production of a really good geometrical text-book.

With reference to the first of these suggestions it may be observed, that while all who preferred to adhere to the old book would be enabled to do so; others who were dissatisfied with it would have the opportunity of carrying out their system of teaching, in the way which they considered best. About this arrangement, regarded as a mere temporary expedient, there would be this advantage: it would afford an opportunity of testing the results of the Euclidean and anti-Euclidean methods of instruction, and would enable the Universities, and other competent mathematical authorities, to decide on which side the balance of advantages lay.

But it may be objected, that though it would be easy to set questions, which may be answered out of Euclid, or any other text-book indifferently, yet there would be a difficulty in fairly estimating and assigning adequate marks to the work of the candidates, inasmuch as those who brought up Euclid would have to give more time to the subject, and to use proportionately more intellectual exertion in their preparation of it. This difficulty may be met by requiring a larger portion of geometry to be brought up by those who used modern text-books; for example, the whole of a modern text-book, like Wilson's, Wright's, Morell's, &c., or a portion thereof, together with a fair amount of unseen work, may be regarded as an equivalent to two or three books of Euclid; or instead of the whole of Euclid, the whole of a modern treatise covering the same ground, with some more advanced geometry added, may be exacted. A very little consideration on the part of experienced examiners would readily adjust any difficulty of this kind.

A more important objection is, that it would be hard to test the quality and accuracy of a student's work; because, as necessarily in every proposition, what has been previously assumed or proved is taken for granted and used as the basis of further reasoning, unless the examiner



were acquainted with the text-book studied, he could not be sure of the accuracy of the examinee's answers, inasmuch as in different text-books the points assumed are different, and the sequence of propositions varies. Now it must be allowed, that in a science like geometry, where at every step, something is supposed and something else has to be proved, or something is given and something else has to be done, and all depends upon the orderly development of each point from what goes before, this difficulty is greater than in subjects like arithmetic, algebra, or trigonometry. Indeed, in these the difficulty hardly exists at all, because each branch of the science is more independent of what precedes, and a certain definite order of development is not so important; and so no objection is ever raised to the multiplicity of text-books. Still this objection in the case of geometry may be easily met, by requiring each student to mention the particular treatise to which he has been accustomed. As the existing text-books are not very numerous, it would not be too much to require examiners to be acquainted with them sufficiently for the purpose of testing the accuracy of written, or even, if necessary, of oral answers.

Turning to the second suggestion, viz., the desirableness of producing a really good geometrical text-book, we do not mean to cast a slur on any of those recently published, nor to deny that some of them, notably those of Wilson and Wright, possess very considerable merit. But it must be allowed, that there is much force in the objection which we have just been considering, and that an excessive multiplication of elementary geometrical treatises is an evil to be deprecated, for, while many of these may be good, others would almost certainly be indifferent, or bad; thus a prejudice would be created, and the cause, which it was intended to serve, would be injured instead of promoted thereby. That this danger is no imaginary one is proved by what has already taken place in Italy. A special commission, appointed to investigate the condition of geometrical teaching in that country, has actually recommended a return to the use of Euclid in classical schools, not because of its own merits, but simply in consequence of the great and increasing number of bad text-books; and this recommendation, adopted by the Government authorities, has become law. In the scientific schools, however, modern treatises are still retained. Even in France, where the treatises are better, complaints are made of their deficiencies and want of accuracy and completeness; many think that there has been too great a departure from the spirit of Euclid's demonstrations; there are those who go so far as to say that Euclid is superior to Legendre; and some of the best authorities are not satisfied with the present condition of geometrical teaching. It is evident, then, that in this matter of text-books, while we are making a change, great caution is requisite. Nothing should be done hastily. When we move forwards, we should endeavour to move in such a way that there may be no necessity in the future for retrograde steps.

While, however, we thus recommend caution in this respect, we must not be supposed to deprecate the present use of existing modern treatises. On the contrary, we consider that the general adoption of

These, until an authorised one be put forth, is much to be desired ; because we should thus discover their respective merits and defects, and so be guided in the improvement of these, or the composition of one better than any of them, upon which the *imprimatur* of competent authorities may ultimately be set.

Indeed, for the due execution of this purpose it is of the greatest importance, that as many teachers as possible, even if they do not altogether abandon Euclid, should try the new books and methods, and compare the results with those obtained, by the use of Euclid as a text-book, and a close adherence to his order and system. The main question, as to whether Euclid should be retained or not, would be more satisfactorily settled by an accurate induction from a sufficient number of carefully worked experiments, than by any number of theoretical arguments, or *a priori* considerations. Though we make this remark, as if the question were an open one, we have no manner of doubt as to the conclusion to which an impartial and thorough investigation would lead.

It being obvious, then, that the production of a good text-book, which should carry with it more than the authority of its individual author, is a desideratum, and that such a work must be undertaken with great care, it would seem that the Association for the Improvement of Geometrical Teaching has taken a wise preliminary step in obtaining from its members programmes, stating what should be included in an elementary geometrical treatise, and the order in which the various branches of the subject should be developed. The careful examination and comparison of these programmes, together with the study of continental and our own modern text-books, and the accurate observation of the results of their use in practice, should lead to the composition of a treatise, both satisfactory in itself, and likely to win general approval, and secure very extensive or even almost universal adoption.

Without making any suggestions on particular points, we may observe generally that Euclid's treatment of the subject must be at once set aside ; the whole task must be undertaken *de novo* from the very beginning, without any deference to Euclid's doctrines or order. Thus it would be necessary at once to discard Euclid's theories of parallels and proportionals, and to adopt a wider view of angles, while we could not avoid classifying the subject under divisions very different from his, and altering his confused and unscientific arrangement. The first thing would be to decide upon the first principles of the science, the axioms and fundamental definitions ; the next to settle what is to be included in the treatise, and the order in which the various branches of the subject and the particular propositions are to be placed. Each proposition should then be drawn out with due regard to accuracy of reasoning and expression, without, however, that minute exactness of verbal formulæ, which makes Euclid's Elements so cumbrous and perplexing ; the premises and the conclusion at each successive step in the argument being expressed in the simplest language possible, and in such a way as to be most readily apprehended by the reason. Whatever can be done should be at once assumed capable of being done, whether it be the self-evident problems of drawing a line, or describing a circle, or the less obvious ones of dividing a line, or bisecting

an angle ; in short, hypothetical constructions should be used without any hesitation. All methods, such as those of superposition and revolution, which tend to simplicity, or brevity, or elegance of proof, should be freely employed. In short, it should all along be borne in mind, that the great object is to produce propositions as short and clear as may be compatible with exact and logical demonstration.

It may now be asked, whether in the execution of this work any attention is to be paid, or reference made, to Euclid ? We are not prepared to answer this question in the negative. Faulty as Euclid's *Elements* are, the book will always be worthy of study, not only from the interest attached to it as a fossilized remnant of antiquity, but also from the fact, that for more than two thousand years it has held its place as a living subject of intellectual exercitation. It would be no bad preparation for the formation of a new text-book to carefully study Euclid, eliminating the propositions that are superfluous, and supplementing those that are wanting. Then in single propositions, it would be an useful preliminary exercise to try to modify his laborious and clumsy form of demonstration,—to unravel his mysterious perplexities,—to eliminate all redundancies of verbal expression, often for long phrases substituting single words,—to leave out all unnecessary details and repetitions,—to shorten his tedious proofs,—in fine to give a new life and freshness to the whole. It may then not unfrequently happen, that some of his propositions may fall into the changed order, and be adopted with advantage in the new treatise. For without going so far as to recommend the retention of the syllogistic form of Euclid's demonstrations, we do think it important to endeavour to strike the mean between the cumbrous and unnecessary rigidity and preciseness of his proofs, and the illogical looseness of those of some modern treatises. It surely must be quite possible to combine simplicity and elegance with clearness and definiteness of argument. That something then may be derived from Euclid ; that he is in some respects worthy of imitation, may be admitted ; but still it must not be forgotten, that success in the proposed undertaking will probably be proportionate to the extent of liberty allowed. To tie us absolutely to Euclid, or to his demonstrations in any form, would be most injurious.

Recurring to a point before suggested, we must urge the importance of remembering the fact that geometry has to be studied, not merely theoretically as a mental discipline, but also for the purpose of its practical applications ; and in the teaching of the subject both these purposes should be, as far as possible, borne in mind. Now it is open to any one to say, why not keep these two objects distinct ? let us have our treatises, dealing with the subject theoretically for the purpose of intellectual training, and other treatises dealing with the subject in its practical developments for the preparation of students for scientific callings, and for their education with a view to the advancement of the arts. One cannot regard such a proposition with any favour. For first it involves a waste of teaching power, requiring two separate courses of geometrical instruction to be going on in the same school, and often in the same class, at the same time.

Then, secondly, the bare theoretical exposition of a subject in its purely abstract form is far less interesting and attractive than that exposition which, along with the theory, points out its practical bearings. Abstract ideas, presented in their naked form, are always distasteful to young and immature minds; while they seize with avidity upon anything that appeals to the senses, or is capable of reference to the needs of common life. And the mingling together of theoretical investigation with its practical applications is not only more interesting, but also makes it more easy for the student to follow and grasp the course of reasoning. The concrete embodiment makes the abstract doctrine clearer and more definite to the youthful intellect. And so boys could commence with advantage the study of geometry at a much earlier age than they do at present, would grasp the subject more rapidly and tenaciously, and make in the same time proportionately greater progress than is usually made now. Further, it is to be feared that exclusively practical treatises would, like many works on mensuration, degenerate into the mere enunciation of propositions and statement of facts and rules, and a system of practical constructions, without accurate or formal demonstration. And it can never be too strongly insisted upon, that for mental training such a method of dealing with the subject is worthless, and even for the purpose in view fallacious; because a firm grasp of principles, and a ready capacity for following out trains of scientific reasoning, are far more valuable even for the practical exigencies of life, for the work of the military officer, the engineer, the architect, or the artisan, than the knowledge of bare facts, the recollection of any number of formulæ, or even the acquisition of the art of making constructions without limit. The general conclusion, then, at which we may arrive is, that, while the principles of the science should be firmly fixed on a purely rational basis, and definitely stated in precise terms, while from these principles the various propositions should be successively developed, each being demonstrated clearly and simply, rigidly and exactly, at the same time concrete illustrations should be given, and practical applications pointed out wherever opportunity occur; in short, that the whole subject should be arranged and stated so that it may be readily applied in practice.

One point above all others should never be forgotten. One of the chief defects of Euclid is that it exercises the memory more than the reason, burdening it with definitions, axioms, and postulates, with stiff phraseology and long formulæ of statement, with an unnatural order of demonstration which reason, left to itself, would never adopt; and what we especially want is to lighten this load of the memory, and to supply more natural and healthful exercise to the reason. If this object be not regarded, whatever else we effect, we shall fail in our main purpose.

These are the general principles, which we venture to suggest, as those which should guide us in the composition of a new geometrical text-book. It cannot be too strongly urged, that great judgment and caution should be exercised in the execution of this important work; whatever is done should be well considered beforehand, not only by some of the best mathematicians of the country, but also by skilled geometrical teachers. Every suggestion from competent authorities should be well

weighed, every element in the case carefully digested, and in accordance with the results thus obtained the whole work constructed.

One cannot but hope that this work may be undertaken by the Association for the Improvement of Geometrical Teaching. Amongst its members are to be found men who combine the conditions of high attainments, and of experience in elementary teaching. And from the way in which the Association has inaugurated its work, we have every reason to believe, that such an undertaking would be well and wisely carried out. Of course one would be glad to see the Universities in this, as in all matters of educational reform, taking the lead. Yet, as they are naturally fettered by the prejudices resulting from long continued usage, and are by their constitution unable to move rapidly and freely, perhaps more is to be expected from the action of a society, composed mainly of practical teachers with adequate knowledge of their subject, which can act independently and devote itself in a great measure to this one object. One such text-book thus formed by the united wisdom and experience of competent men would serve as a model for others. For though we recommend the careful settling of principles, and of the order and manner of exposition once for all, in short, the fixing of the salient points and limits of the subject, within those limits we do not wish to interfere with perfect freedom of treatment. We want rather a good type, which others can follow, and if possible, improve upon, than a work which shall take the place of, and permanently exclude all others. Absolutely to discourage the composition of new treatises would be undesirable; it would simply lead to the present system in another form; faults would be stereotyped, and progress stayed. Especially would this be injurious in this particular case of geometrical teaching, which has been so long suffering from the unnatural restraint put upon it by the exclusive adherence to Euclid. What we want above all things is freedom, —not to be tied too closely down, but to be able to range through the wide field of geometry with reason unfettered, and all our faculties free. So strongly are we impressed with this point, that we should even be disposed to recommend delay in any attempt to obtain very general use for one treatise, because we feel, that a short season of freedom would enable us the better to discern what to aim at, and in what direction and how we can best reach the object of our aim. Lastly, there must be no finality in this matter; no book, however good, should be allowed to occupy the educational field for an indefinite time; the advance of knowledge must necessarily entail improvement in elementary text-books, and render it desirable to supersede the old ones. We want no second Euclid set up to stay the progress of knowledge, to hamper the education of future generations, and to cumber the ground of science.

We have ventured to dwell upon one important work, which we hope the Association for the Improvement of Geometrical Teaching may undertake. But even if it do not produce a model text-book, yet it has before it work of immense value in the collection and wide dissemination of information as to the methods and results of geometrical instruction in this and other countries, and in the ascertaining of what is the exist-

ing feeling, and the endeavouring to enlighten public opinion, among ourselves upon the matter. These, indeed, may be regarded as its primary and special functions, the production of a text-book only as incidental and secondary. Such an association, formed for such objects, has a claim upon the hearty support of all interested in the advancement of science and educational progress. And the united action of men who understand what they are about, are earnest in purpose, and resolute in the pursuit of an object which they know to be right and beneficial, can hardly fail, if not to secure complete success, yet at all events to bring about a very great improvement in the present unsatisfactory condition of geometrical teaching and knowledge in this country.


The objects which we geometrical reformers have in view are simply these,—the advance of the science of geometry, a more wide-spread and sounder geometrical culture, the teaching of more geometry in a better way and in a shorter time, and a more useful and effective training of the reasoning faculties. In the pursuit of these objects we are prepared to meet all the usual arguments and objections of a narrow and prejudiced conservatism. We do not wish to interfere with anyone who is of a different opinion; we do not ask for the exclusion of Euclid from our seminaries of learning; we only demand liberty for ourselves to use other text-books if we think it best. In every other subject this liberty is freely accorded; we are not obliged to use certain grammars or dictionaries, or one fixed treatise on arithmetic, algebra, trigonometry, chemistry, or any other branch of science. Why are we to be tied to one book in geometry alone? We demand that we should not be,—as we are now, by the fact of Euclid being set as a text-book for so many examinations,—practically obliged to adhere to one book. Surely such a request, made by men who know what they want, and are competent to form an opinion on the subject,—and made in earnest,—should induce the Universities and other Examining Bodies to yield their consent. If we are wrong, the mischief done can only be temporary and limited, for our mistake will soon be found out, and the adherents of the old system are sure, at least at first, to be numerous; but if we are right, we shall have been instrumental in introducing an improvement, the good effects of which on educational progress and mental culture cannot fail to be important and lasting.

JOSHUA JONES, D.C.L.

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UNIVERSITY OF TORONTO.—Dr. Alleyne Nicholson, lately Lecturer on Natural History in the Medical School of Edinburgh, has been appointed to the Chair of Natural History in this University.

## FEMALE EDUCATION.

F late we have been dosed *usque ad nauseam* with dissertations on female education. We already have female doctors and we are threatened with female lawyers and female M.Ps. Is this state of things merely a violent re-action from the pudding making and spinning of our great-grandmothers, and the dancing and dressing and melody making (or marring) of our grandmothers? Or is it an abiding manifestation of that spirit of progress of which we hear so much in these days?

There is a good old book whose precepts it is too much the fashion to question or to ignore, which speaks of women learning in silence—of their being in subjection—of their guiding the house and of their being keepers at home. To reconcile these exhortations with female professors and female physicians, aye, or even with female preachers needs, I think, the casuistry of a Jesuit.

But are not our women to be educated? Are they to be doomed to suckle fools and chronicle small beer? to be men's housekeepers only. Are they to learn to dress, to dance, to play, to draw, to be man's play-things only? Or, taking into account the probability held out by the recent census, that our spinsters must far outnumber our matrons, are they to dream away a useless existence—useless to themselves, useless to their fellow creatures, and with reverence be it added, useless to Him who has created all things for Himself?

Most assuredly our women are to be educated—and well educated—educated so as to be comforts to themselves and to others—to be dependent on themselves only for happiness, and continually making others happier and better—educated for time and for eternity.

But to enter a little more into detail—Having at the very outset recorded my firm conviction that no education is worthy of the name which does not take our Lord Jesus Christ as its foundation and corner stone, I proceed to examine its secular branches.

Shall I excite a laugh by suggesting that faultless spelling and grammar and a legible hand writing (if an elegant one too so much the better), must be insisted on as essential? Who has not often smiled at the misspelt word or the ungrammatical construction in a lady's letter or even short note?

English Orthography is confessedly so difficult, and so continually overleaps the rules laid down for our guidance, that nothing but constant practice, especially in writing, can make our spelling faultless. And as for English Grammar, there seem to be as many methods as there are teachers, and we are ready to wish for some new English Primer issued by authority. But gross faults can be easily avoided by a sensible grounding in grammar and constant exercises in composition. Geography and History should occupy a large space in female education, and the knowledge of them acquired in the schoolroom should only serve as a foundation on which to raise a more rational, and extended, and (if I may

so say) philosophical acquaintance with countries and nations, when study is no longer the *only* or the chief duty of life.

Every lady is supposed to learn French and German, but I am afraid there is often a great deal of supposition on the subject—*vox et præterea nihil*. There is the grammar, the pronunciation and the literature, and after having studied all these we may find ourselves at a great loss abroad from not having practised French and German conversation.

Arithmetic is most important for all—the higher branches of Algebra and Mathematics are very useful in strengthening the mind, if it is so constituted as to be able to pursue them without the unpleasant consequences of an aching head and a muddled brain.

May I be permitted to advance a plea in favour of girls learning Latin? A thorough grounding in Grammar, including Syntax, and an ability to construe Cæsar and Virgil is of immense advantage. No living language with its ever varying rules and added words can be taught with the precision of a dead one, and the needful analysis of a Latin sentence, will be found to be of no little use in unravelling the grammar of an English one. If time and opportunity and inclination are not wanting there is no reason why Greek or even Hebrew should not be added. But there is surely no need that girls should learn composition either in Greek or Latin, either in verse or prose—and this will take away a great deal of the time spent by the other sex in the acquisition of these languages.

Now, as regards Music and Drawing—it would probably be desirable that every girl should learn the elements of these—but surely we might be spared the wretched strumming of one destitute of a musical ear or musical affections, and the scrawls and daubs of one whose fingers seem out of their element when handling the pencil or the brush. Where there is a real taste either for Music or Drawing we have no right to bury the talent God has given us.

I have purposely left needlework to the last—certainly not because I undervalue it—a thorough foundation should be laid in early childhood, and a taste for it encouraged and developed as much as possible. And what are we to say about those domestic duties which formerly engrossed so much of ladies' time? Some knowledge of them is undoubtedly most desirable for all; but I think its amount must vary greatly with their various social positions. Moreover, an active share in household engagements is seldom desirable till the close of *actual* school-room work.

One great deficiency in the education of our girls is its want of *thoroughness*—a mere smattering of many branches of study is all that is acquired—nay, is all that *can* be acquired, if two or three years at a so-called finishing school are to make up for the deficiencies of previous years. Let a solid foundation be laid—for it is only a foundation which we can pretend to accomplish—the superstructure must be carried on by young ladies “out of their teens.” Let our girls be taught to *think*—not merely to get through a certain amount of learning; superficiality is impossible to a mind trained to think.

But woman is not all composed of mind. We are reminded in



these day of athletics that man, and therefore woman, has a body also—and if we desire the *mens sana* we know in what sort of body it must dwell. Thorough exercise is essential for our girls—those brought up at home are often well cared for in this respect; but I question if, in one girls' school out of fifty, there is enough open air exercise to maintain a tolerable degree of health, certainly not a vigorous state. It is difficult to attain this end, and the means must vary with the locality, but the hour's walk in procession and probably with the necessity of speaking in a foreign language is not exercise, it is a mockery to give it such a name. I have heard of a school at Brighton—all praise to its mistress—where the girls, sheltered from gazers by the high walls of their playground, enjoy games at cricket.

In concluding these remarks, which perhaps show the very fault I have been condemning of superficiality, I would just say that the middle class examinations for girls, appear to be admirably adapted for concentrating attention on certain chosen branches of education, and it is a great pity that more young persons do not avail themselves of them. **MATER.**

**NORTH LONDON COLLEGIATE SCHOOL FOR GIRLS.**—The annual distribution of prizes to the pupils of this school was held at St. George's Hall, Langham Place, under the presidency of *Lord Dartmouth*, supported by Harvey Lewis, Esq., M.P., Arthur Roebuck, Esq., M.P., Mr. Churchwarden Rahles, Dr. Garvey, Dr. Storrar, and the Revs. C. Mackenzie, J. B. Owen, T. Pelham Dale, and C. Lee. The proceedings commenced with a part song by the pupils, after which the report was read by the Rev. C. Lee. It stated that since the last meeting the school had been transferred into the hands of trustees, and was now a public institution. A new and less expensive school was opened at Christmas, a counterpart to that for boys in Cowper Street, E.C. The two now number three hundred and twenty pupils. Fifteen girls had passed the Cambridge Local Examinations at Christmas; Miss Greatbatch in the first class senior, Miss Bennett in the second class senior, and three others with honours. The Misses Greatbatch and Cole had passed the examination for women, conducted by the University of London, the former also obtaining certificates of higher proficiency in French and harmony. The Reid Scholarship, tenable at Bedford College for two years, was gained by Miss Doyle. The chairman congratulated the friends of the institution on the progress made during the past year, and observed that there was an undercurrent of common sense running through the report; he agreed that it was unadvisable to waste time over the piano and feeble drawing, which he considered subordinate to studies of greater importance. Mr. Harvey Lewis moved the adoption of the report, and was glad to observe that the honours gained by the pupils were conferred, not by their own teachers, but by an independent examining body, in competition with girls from all parts of the country. The Rev. J. B. Owen seconded. After some remarks by Dr. M. A. Garvey, the prizes were distributed to the successful candidates. A vote of thanks to the chairman was proposed by Dr. Storrar, and seconded by the Rev. C. Lee, who mentioned that the distinction attained by Miss Greatbatch at the University of London in harmony and counterpoint was due to Miss Maclean, a former pupil of the school. At the conclusion of the meeting, it was announced that prizes of the value of £5 each had been founded by Lady Dartmouth, Mrs. Harvey Lewis, and Mrs. Newmarch; and that the Gilchrist trustees had placed at the disposal of the governors of this school the sum of £25 per annum. *Prize List.*—Scripture.—Mr. Back's, Miss K. Buss—A. Cotterell, L. Punton, K. Raisin. The Hardwicke—Miss L. Punton. The Dartmouth Prize—Miss Stuart. The Camden Prize—Miss Greatbatch. The Vicar's Prize—Miss M. A. Bennet. Rev. R. P. Celemenger's Prize—Miss M. A. Bennett. Mrs. Laing's Prize—Miss Weightman. Rev. C. Lee's Prize—Miss M. A. Bennett. Rev. H. Linden's Prize—Miss Punton. Old Pupils' Prize—Miss M. A. Bennett. Logic—Miss Raisin. Holiday Work—Miss M. A. Bennett and Miss Whitehead.

## WORK IN MIDDLE CLASS SCHOOLS.

**E**W principles are better settled in the politics of the present day than the absolute sovereignty of public opinion. If the nation demands a thing, there is no politician, or party of politicians, that will now undertake to refuse it.\* No legislative act of late years could be a better proof of this statement than the Education Bill of last year. Public opinion has once again proved successful in the adoption of school-boards, the institution of accommodation for the purposes of Primary Education throughout the length and breadth of the land, and in the nominal, even if for the moment it should prove not to be the actual acceptance of compulsion as regards education. Is it a time to sit down and regard with satisfaction the consummation of the first act of an elaborate drama? Is it not a time rather when success should be the incentive to push forward with the greatest energy, in order that the work to be done should be accomplished as soon as possible? Shall we, who wish the work of education to be conducted under the most approved methods, whose sole aim is the welfare of England and Englishmen, shall we, I ask, "rest and be thankful," whilst there is yet something to do? Nay, our aim will be to give our whole attention to other phases of the educational system which loudly call for reformation, and use our utmost efforts to build up such a structure as shall prove adequate to supply every want that is needed.

One of the most difficult, and, at the same time, one of the most important educational problems we have to consider is that which treats of the actual manner in which the work should be performed.† No matter how grand a scheme may be elaborated by theorists or practical men—no matter how completely that scheme may be fitted to supply the wants, it will be useless so long as the men who have to carry out its precepts, its rules and laws, are incompetent to perform their share of the task. Our present Middle Class Educational system is a gigantic failure, and this is caused, in no small measure, by the incompetency of those to whom the task of teaching is entrusted. True it is that there are many noble exceptions; we have a small minority of earnest, self-denying, hard-working men, who, in the widest sense of the term, are educators; but the enormous majority form a phalanx of utter incapables. The same again might be said with regard to the schools, the minority are good, whilst the majority are unfit to be classed as, or called, schools at all. If any of my readers should think this sweeping condemnation uncalled for, or in any way exaggerated, let him or them carefully study with me the requirements of Middle Class Schools, and then see how far they give what is really required. For what class do they provide education? There is no difficulty in answering this ques-

\* Prof. Seeley's English Revolution.

† My intention was to have written a series of papers, describing at some length the methods actually employed in teaching various subjects, pointing out the shortcomings, and giving hints which, if adopted, would assist greatly in the arduous work of education. Unfortunately, the scheme cannot be carried out, and this paper is a mere casual glance at a great question.

tion, because the name implies that they cater especially, if not solely, for the great class holding a position between the aristocracy, on the one hand, and such as live by manual labour on the other, including landed proprietors, wholesale and retail merchants, manufacturers, &c., &c.—the class to whose talents and energies England owes her greatness. Yet, while we squabble and wrangle about Primary Education, looking upon it as the grand panacea to heal all the troubles, trials, and privations of the labouring class, the question of Secondary Education is to all intents and purposes ignored. We fondle and pat the artizan class, whom we are afraid of, letting them humbug the nation with their strikes, trades-unions, and intimidations, cramming delicious morsels down their throats, so that they shall not be able to jaw us, whilst those of the land, who really deserve the thanks of all, receive the cold shoulder, and because their ranks swarm not with demagogues and stump orators, are compelled to wait and wait on, till patience grows exhausted, and they look upon political promises as so much rubbish. This is a digression.

Middle Class Schools do pretty much as they like, and how they like. There is nothing to prevent the bankrupt greengrocer from opening a school, who by swindling his creditors has attached M.A. or Ph.D., or some other equally fictitious symbols to his name, these said symbols being granted *for a consideration* by some *foreign* university, at the instigation of some agent. The public, gulled by flaming advertisements, patronise this said Ph.D., and he is thereby enabled to live luxuriously, and do a thriving trade. We constantly hear it said, how is it that the public allow themselves to be led away by such advertisements? We reply by another question, and ask, how can they help themselves? Who can tell a genuine advertisement from a really able man, having a good school, and one from a man who knows nothing about teaching, whose sole aim is to live, and to live comfortably, upon the credulity of his fellow men? As we have so often said before, there is no remedy for this sort of thing till we know more about the inner working of schools. Institute some general test, for all to undergo, and the shams of educational life will soon be driven into oblivion, leaving behind the solid, the substantial, and the useful.

A writer in the "Westminster Review,"\* says of our educational system:—"We unhesitatingly assert that, *judged by the results it aims at producing, as compared with those it does produce, it is a miserable failure.* . . . We must look facts in the face. And is it not a fact that thousands upon thousands of English boys spend a considerable portion of four, five or six days a week for forty weeks in every year, from the time they are six or seven years old till eighteen or nineteen, or even more, in learning Latin, and at the end of the time cannot construe Cicero or Virgil with any approach to ease and accuracy? cannot, at any rate, read even an easy Latin book with such facility as to think of taking one up to read for their own amusement! Must this be laid to the stupidity of the average English boy, or must it be laid at the feet of the system? Again we have no difficulty in answering the question—it is the system. How, for example, is Latin taught in our schools—not, we

\* April, 1871.

are thankful to say, in many who are beginning to feel the necessity of moving with the times—but in the majority of those schools which have some twenty or thirty boarders, and perhaps as many day scholars? The master, perhaps the principal himself, gives out the daily task, and the pupil finds that he must prepare, say twenty or thirty lines of Cæsar, of Virgil, or some other Latin book, as the case may be. The poor boy goes home, and, if he possesses a spark of sense, turns to a crib which he has purchased with his pocket-money. To digress again—do I believe in cribs? Most emphatically and decidedly *No*! If, however, the boy possesses no such book, he turns with ‘lack-lustre eye’ to the well-thumbed dictionary, and then the minutes fly away whilst he despairingly turns to word after word, digging amid a mass of verbiage for something that will suit him. At last his task is done—we do not say how—and the books are thrown with disgust into some corner till wanted. The time arrives when the master is to hear the lesson. The boys are seated around him, with their books in their hands; the master also has a book, frequently a word-for-word crib, an interlinear translation; the first boy commences to construe, and perhaps goes on fairly; after a line or two, the next boy is called upon, and so on through the class, the last few boys perhaps failing to say a word, and thus gaining an imposition for their laziness. And this goes on day after day, and is said to be ‘teaching Latin.’ At the end of the term comes the examination. This is a specimen of double-dealing; the boys really know nothing; but, for the good of the school, they must do a creditable paper. A chapter of Cæsar has to be translated, perhaps I should say a paragraph; the boys are allowed to *use their books*, which probably contain a vocabulary and copious notes. The paper is creditably done, and pater-familias believes in the school and in the master.”

This is a rough picture—much must be left to the imagination of the reader—but there is little doubt as to what the verdict of any sensible man would be. Or perhaps the picture is deceptive, and cannot be believed. Nevertheless, it is a fact. Shall we say such schools as these are mere humbug, or shall we continue to believe in them and support them? Could not some kindly disposed philanthropist—one who can teach, one who can tell others how to teach—with time hanging heavy on his hands, publish an exhaustive treatise upon ‘the art of teaching?’ He would be doing a real kindness to this and succeeding generations. Our schoolmasters are looking for quantity, not quality.

One word to the followers of the old school, such as think the life of a master to be a nice easy one, who never trouble themselves much about their scholars, so long as they are tolerably well behaved, do a little work, and give little trouble. Try, take your class, open your book at to-morrow’s lesson, talk about it, point out any words you may think the majority of the class have not met with before, call attention to the peculiar usage of any word, or any particular, or out-of-the-way grammatical construction, any irregularity in fact, or any difficulty. Then let the class prepare, and we dare assert that many a heart will be lightened, many an eye brightened, and the work will be easier and *better* done, than when so many weary hours were spent in looking over the

dictionary. It won't take *you* long to make these short explanations, but it will save the boys an immense amount of work. This, and much more, is done in many a school, by many a master—but it ought to be the rule, not the exception. Again, we repeat, some explanation should be given before preparation, and the good master will find no difficulty in so wording his lesson that ample scope is left for the pupil to *think* upon the subject himself. This is just a hint, and nothing more. Plan for yourselves, test for yourselves. A good master is known by the amount of work he does. If he possesses any interest at all in his boys, his aim will be to get the greatest amount of real work from them with the expenditure of the least power. He will take no thought of his own trouble, so long as he can save it in others.

Take another example. It was not so very long since that we witnessed a very peculiar and interesting method of giving an English grammar lesson. The boys were seated round a long table, with some really good grammars open before them, grammars intended for advanced pupils, and therefore not so clear and explicit as some of those intended for younger boys. The master, a gentleman who took a high position at Oxford, who could boast of numerous school and college prizes, gently walked round and round the table—doing what? hearing the boys *read* one by one, sentence by sentence, out of this English grammar—no explanatory word, no copious examples—‘thus we saw a grammar lesson.’ Need we add that both ‘master’ and ‘boys’ gave a sigh of relief at the end of the uninteresting and monotonous task. In this latter case the public seem to have arrived at a conclusion, and the school, although under aristocratic and influential patronage, does not thrive.

Again, whilst in a large midland town, talking to the eldest boy (about eighteen years of age) and head of a well-known school, we gathered that the pupils were such a lot of incapables that the master found it impossible to make them understand more than three of Euclid's problems in a term; and my informant added, *sotto voce*, ‘We don't understand them at all, for he doesn't know how to teach us.’

“For more ‘facts’ we could point to the reports of the Civil Service Commissioners, to the Calendar of the London University, &c., &c., where we should find some very startling disclosures. How is it that more than one half generally fail in the matriculation examination at the above-named university? How is it that so many, who have been enabled by lavish expenditure to claim the attention of the *best* masters, fail to pass the examinations for ‘direct commissions,’ Woolwich, &c.? ‘Are not such facts as these an emphatic and conclusive condemnation of the system of teaching which produces such results? For the ordinary English boy of the well-to-do class is not incapable of learning. On the contrary, he soon learns a good deal when he is thrown on his own resources among his equals in the world, notwithstanding the imperfect character of the preparation he has received at school. So that if he does not learn Latin and arithmetic at school, we may assume that it is not simply from want of capacity. Any one who has fairly tried to apply a rational system of teaching to such boys (supposing, of course, as a

condition precedent, that he has himself a competent and intelligent knowledge of the subjects he attempts to teach), knows from experience the truth of this assumption. And if any one want confirmation of it, let him ask a government inspector, or read the published reports of those officers, for the purpose of ascertaining what is the character and value of the knowledge acquired by a class of boys supposed to have much fewer advantages under the instruction of able National School-masters. He will then discover that the children of labourers and artisans can get for a few pence a week a better intellectual training, a more intelligent knowledge of what is taught them, and more capacity for using and developing the powers of their minds, than is commonly gained by the majority of the pupils of the most successful and expensive seminaries in the country. What is the cause of this difference? How is it that the ordinary public or grammar-school boy learns so little and so badly, while a fair specimen of the product of the National School at least learns well the little that he generally has time and opportunity to learn at all? The answer to these questions is simply this. The teacher in the latter case knows, because he has learnt, while the teacher in the former does not know, and will not learn, *how to teach*."

We have so often expressed this opinion before, and it seems almost hopeless to look to the 'powers that be,' that we again strenuously appeal to every well-meaning master in the country to give the subject his earnest attention, to put his shoulder to the wheel, and to see if something cannot be done to remedy this state of affairs. It is not that our masters have no energy, have no wish for better things. Many would be only too thankful to know how to do this or to do that, in order to obtain the best possible result. Where, oh where is our philanthropist? There is this horrible bugbear to fight, that quantity, that show, glittering gilded show, is everything, and solidity and quality nothing. 'Teach the girls so and so,' said a principal, 'so that they may go home and talk about it in the vacation. It sounds well, and *brings grist to the mill*.'

Just so; the sole aim and object of grasping, covetous men is to bring 'grist to the mill.' We would ask our readers to make a stand once for all upon the good solid rock, and vigorously express their opinions, and not only to express but so to act, that whatever is to be learnt must be learnt thoroughly. The confidence of the public in its school-masters is almost *nil*, or there would be no asking whether this or that is taught in the school, but John Bull would deliver over his son to the dominie he respected, with the words, 'I desire my son to be fitted for active business; I wish you to impart that knowledge which will enable him to use his mind, to learn for himself, and to apply his mental powers to any subject that may be brought before him. You know best how to do this; and, without the slightest restriction or reserve I place him in your hands, knowing that you will do your best *to make him a man*.'

C. H. W. B.

## NOTES ON SOME GEOMETRICAL REFORMERS.

I. BEFORE 1658.

BY R. TUCKER, M.A.

"No rock so hard but that a little wave  
May beat admission in a thousand years."  
THE PRINCESS.

"Our later mathematicians have rolled all the stones that may be stirred."

BURTON'S ANATOMY, Part ii. Sec. 2.

**D**R. JONES, in his pamphlet (an account of which appeared in the last number of the *Journal*), after remarking that "Euclid" is retained as a geometrical text-book, partly from the force of custom, and partly because we know little of other text-books, goes on to say (p. 89): "In this case, the party of progress and reform must not be content to remain quiet, resting on the goodness of their cause and the weakness of their adversaries' position; but must be prepared to use actively and vigorously such means as lie in their power to carry their point." That this conviction is not one willingly or hastily arrived at is well recognised by all who are anxious for some change in the method of teaching geometry (*disciplinarum omnium facile janitor*). To use the words of the same able writer (p. 46): "Though, of course, all the prejudices of our early education and of our past experience are in favour of Euclid, we are forced, however reluctantly, to the conviction that it must be given up; and by an accumulated weight of argument we are obliged to believe that there are but few, if any, educational reforms which would be fraught with such beneficial results."

An experience of more than fifteen years as a mathematical teacher has led myself to see that some alteration in our old text-book is urgently needed; and though I would not join in the cry, "*Carthago delenda est*," yet a very considerable modification of the order and mode of proof, as presented to us in the "*Elements*," I consider to be absolutely called for. That the present agitation is not confined merely to the "rank and file" (to use Mr. Levett's words) of mathematical teachers, will have been seen from the remarks I have already contributed upon this subject (pp. 341-50, *supra*).

In addition to the remarkable declaration of Dr. Sylvester (p. 346), we have also on our side the utterances of two gentlemen who have filled the same office of president of the mathematical and physical section of the British Association, Professor Tait and Dr. Spottiswoode. The former, in his address at Edinburgh this year, says: "From the majority of the papers in our few mathematical journals, one would almost be led to fancy that British mathematicians have too much pride to use a simple method, while an unnecessarily complex one can be had. No more telling example of this could be wished for than the insane delusion under which they permit 'Euclid' to be employed in our elementary teaching. They seem voluntarily to weight alike themselves and their pupils for the race." \* The latter gentleman, who is also now

\* *Nature*, No. 92.

president of the London Mathematical Society, recently remarked (July 14th, at the Albert Hall): "The mathematical teaching has always formed a prominent feature in this school. . . . Of the value of elementary geometry . . . as a mental training, there is, in general, little or no doubt. But those who have been practically engaged in teaching geometry by means of 'Euclid,' have found the greatest difficulty in interesting their pupils in the subject, until more time has been spent upon it than can usually be devoted to its study. The simple fact is, that Euclid's work was not written for the purpose of elementary education; and England is the only country in the world where it is still used as a text-book. I therefore learn with great satisfaction, as a mathematician as well as your examiner, that other and more modern methods have been adopted in this school.\*"

We are well assured that the task we propose to ourselves is no light one, but that is no good reason why we should not strive to effect some reform. It may be true, as Montucla writes, "En vain divers géomètres, à qui l'arrangement d'Euclide a déplu, ont tâché de le réformer, sans porter atteinte à la force des démonstrations. Leurs efforts impuissans ont fait voir combien il est difficile de substituer à la chaîne formée par l'ancien géomètre, une autre aussi ferme et aussi solide. Tel étoit le sentiment de l'illustre M. Leibnitz, dont l'autorité doit être d'un grand poids en ces matières," &c.† The very difficulty—if the change desired is really a necessity—ought to move us to greater exertion.

My present proposal is to continue, as well as I can, the line I commenced in the last number, confining my attention in this paper to those reformers principally, if not solely, who published their works before 1658—the year in which Borelli gave his "Euclides Restitutus" to the world.

I think it convenient to divide the Geometries which have been published into three classes, the first comprising those which observe the order and method of Euclid as we are familiar with the "Elements" now-a-days: these, for convenience of reference, I shall refer to as ( $\alpha$ ). The second embraces those works in which the order is preserved, but not the mode of proof ( $\beta_1$ ), and those which keep the proof, but diversify the order of the propositions ( $\beta_2$ ). In the last group I place those works which professedly depart from the Euclidean type ( $\gamma$ ). And here I must disclaim all attempt at anything like an exhaustive treatment of the subject. I can only give an account of such works as have come into my hands, and this account may not perhaps be always correct. But I shall endeavour to give such a statement of my authors as will enable readers to judge for themselves of the relations the writers hold to the question under treatment.

Voëgelin, in the dedication to his "Elementale,"‡ writes: "Propter omnium studiosorum commoda, ex Euclidis geometriâ, eos duntaxat

\* Report of the Examiner (W. Spottiswoode, Esq., F.R.S.) to the Council of the Middle Class School Corporation, Cowper-street, E.C.

† Histoire, vol. i. p. 205 (ed. 1799).

‡ "Elementale Geometricum ex Euclidis Geometria a Joanne Voëgelin ad omnium Mathematicæ studiosorum utilitatem decerptum" (1534). ( $\beta_2$ ) After some thought, I have considered it best to give my extracts in the very words of the authors.



excerpsi propositiones, quæ in demonstrationibus linearibus crebrius obversantur, quæque satis prope sunt ad disciplinarum culmen perducere. In quibus ordinandis pariter ac demonstrandis, prudens non semel ob Euclide dissentio. Ita enim rei brevitās et quam semper quæsiui facilitatem postulabant."

He assumes four "petitions": (i.) all right angles are equal; (ii.) what is Euclid's twelfth axiom in modern text-books; (iii.) two straight lines cannot enclose a space; (iv.) *Euc. i. 7*, "Because its proof may appear difficult to a beginner unaccustomed to linear proofs, and because, too, it is of the nature of a *petitio*, and is very seldom used"! Then follow ten axioms. His first chapter arranges Euclid's propositions in the following order: *Euc. i. 1, 4, 8* (three sides equal), 5, 6, 9, 10, 11, 12, 13, 15, 16, 18, 20, 21, 22, 23, 24, 26, 28 (co-alternate angles, equidistant lines), 29, 31, 32 (divided into two propositions), 34 (the diagonal property), 35, 41, 47—twenty-eight propositions in all.

The second chapter has twelve propositions, arranged in the order following: *Euc. iii. 31, 1, 3, 7, 8, 18, 17, 20, 21, 22, 32*; *Euc. iv. 5*. The third chapter treats of proportion, in five propositions; the fourth chapter applies proportion to straight lines, in six propositions; and the fifth and concluding chapter treats of the properties of triangles, in eight propositions. The proofs are concise, yet Euclidean.

I have no special comments to make upon Gestrinus's\* work. The notes are interesting: thus, to *Euc. i. 5* he appends a proof by superposition; he constructs in *Euc. i. 11*. for the point at the end of the given line. So, on *Euc. i. 47* he gives a number of constructions for square equal sum of three or more given squares, &c.

The work of Finæus† is merely a translation of the Greek text. The remarks upon, and illustrations of the definitions, especially of the fifth and sixth books, appear to me to be worth consulting. He writes: "In primis itaque diffinitiones ipsas, quæ durioris, quam juvenum captus exposceret, plerumque videbantur interpretationis (potissimum libri quinti) quâ potuimus elucidavimus facilitate, atque cætera principiorum genera, à quibus universa problematum atque theorematum multitudo consurgit, in suam redegitur harmoniam. Ipsorum porro theorematum atque problematum subtiles difficilesque demonstrationes, tali artificio, adeoque ordinato ac facili discursu conscripsimus, et convincentibus probavimus syllogismis (multis tum in melius commutatis, tum in recens adinventis: nullisque præter ea quæ in ipso continentur Euclide, subrogatis principiis) ut nemo futurus sit, qui legendo simul non valeat intelligere, quique minimum addere verbum absque temeritate, aut detrâhere, sine jactura possit." He takes for his fourth postulate, "all right angles are equal;" and for his fifth, Euclid's twelfth axiom, with reference to which he makes a statement which I think he is hardly at

\* "Martini E. Gestrini in Geometriam Euclidis demonstrationum libri sex in quibus Geometria planorum traditur, et brevibus Notis perspicue explicatur. Upsalæ, 1542." (a)

† Orontii Finæi Delphinatis. . . . In sex priores libros. . . . Euclidis Megarensis demonstrationes, recens auctæ et emendatæ . . . . textu Græco, et interpretatione latinâ Bartholemæi Zamberti Veneti. Omnia ad fidem Geometricam, per eundem Orontium recognita. 1544. (a).

liberty to do, unless he assumes some knowledge of the properties of parallel lines. He does not care, he says, to add other postulates.

The work of Joannes Baptista\* treats rather of practical geometry. The fourteen problems of Euclid's first book, taken in order, are Nos. 36, 57, 8, 9, 4, 1, 5, 27, 10, 6, 11, 13, 14, 15 of this author. The two of the second book are Nos. 16 and 19; the six of the third book, in order, are Nos. 20, 24, 58, 25, 56, 26; the sixteen of the fourth book are Nos. 37, 28, 29, 50, 48, 30, 31, 52, 52, 32, 33, 34, 53, 54, 35, 38. The fifth book has none; and the nine of the sixth book are Nos. 18, 39, 40, 17, 41, 42, 43, 44, 45: and so on through the remaining books.

The work entitled, "*Les six premiers livres des Elements d'Euclide, traduicts et commentez par Pierre Forcadel de Bezies*" (1564), is merely Euclid, with comments on each definition, proposition, &c.

Soon after this date, in 1570, appeared "*Elements of Geometrie of the most auncient philosopher Euclide of Megara, faithfully (now first) translated into the Englishe toung, by H. Billingsley, citizen of London, whereunto are annexed certaine scholies, . . . with a very fruitfull preface made by M. J. Dee, specifying the chiefe Mathematicall Sciences, what they are, and whereunto commodious; where, also, are disclosed certaine new secrets Mathematicall and Mechanicall, untill these our daies, greatly missed.*" Dee would substitute generally for "*Geometrie, Megethologia.*" This work comes under Division ( $\alpha$ ), but there are notes on each definition, proposition, &c.; other proofs from Pappus, &c., and much interesting matter. Besides Dee's preface of fifty folio pages, we have Billingsley's very warm eulogium upon Euclid. The work contains 926 folio pages.

"*Los seis libros primeros de la Geometria de Euclides traduzidos en l gua Espa ola, por Rodrigo Camorano*" (1576), contains the text of Euclid only.

The object of Rhodius† in bringing out his edition will be seen from the following extract from his preface: "*Quod cum unus optim  pr stet ipsa antiquitate, per tot jam iteratas imperiorum mutationes, singulari Dei providenti  clarus Euclides, in suis Elementis, qu  hactenus ab aliis doctissimis viris sine imperfectione; im  cum abundante perfectione edita sunt;   quorum tamen lectione vel cognitione caritas partim exemplarium, partim prolixitas, qu  ingeniosis t dium, tardioribus exiguum pr stat commodum, multos deterrent; id inii consilium, ut, quantum possem, elementorum tamen prob  considerat  natura et ingenio, ne vel necessaria deficerent, vel minus necessaria abundarent, Euclidean Elementa cum suis demonstrationibus integra, sed forma quadam contracta, pretioque exiguo redimenda ederem.*" He expresses the hope that the result of his work will be that, in a few weeks, will be accomplished what generally has taken months to acquire. The book

\* "*Resolutio omnium Euclidis problematum aliorumque ad hoc necessario inventorum una tantummodo circini data apertura, per Joannem Baptistam de Benedictis. Venetiis.*" 1553.

† "*Euclidis Elementorum succinctis et perspicuis demonstrationibus comprehensi, a M. Ambrosio Rhodio.*" (1609.)

abounds in typographical errors. The order of Euclid's propositions seems to have been kept to ; but the proofs are concise, and such as I do not think I have met with elsewhere, and the soundness of some may be questioned.

There is a similarity between some of the proofs of this last work and the following, which, though of an earlier date (1603), did not come into my hands till some little time after I had looked over Rhodius' work. The work to which I allude is by Dibuadius,\* who states in his preface, "Ab Euclidis lectione, ampla commentationum volumina, etsi doctissima, plurimos deterruerunt. Nos vero benigne lector utilitati tuæ non gloriæ nostræ consulentes, ne temporis aut pecuniæ jacturam faceres, plano brevique commentario auctoris mentem aperuimus."

The small work by Father George Fournier (1654) entitled, "Euclidis libri in commodiorem formam contracti et demonstrati," differs little from the common Latin text, and preserves Euclid's order. Indeed, after relating the old encomium upon Euclid, "nusquam deceptus est," he proceeds : "Nec solum doctrina Euclidis fuit admirationi, sed etiam ipse ordo, quem perturbare adhuc usus [? ausus] est nemo," &c. With reference to Axiom xii., he says, he knows it has been considered obscure by some and has been rejected from the axioms by others, yet it ought not to be removed from the number of "common notions" because two or three reject it. "Sufficiat dicere Euclidem cæterosque omnes hæc omnia ex sola terminorum notione evidentia censuisse et existimasse sensu communi carere qui ea negaret." He then gives Clavius' demonstration.

The result of our examination then, so far, is much the same as that stated by Hallam : † "The geometers of the sixteenth century, content with what the ancients had left them, seem to have had little care but to elucidate their remains. Euclid was the object of their idolatry ; no fault could be acknowledged in his 'Elements,' and to write a verbose commentary upon a few propositions was enough to make the reputation of a geometer." He then refers to the well-known works of Commandine and Clavius. Montucla (vol. i. p. 209) mentions that Ramus, who finds fault with Euclid, yet fails altogether in his own "Elements," "car les vingt-huit livres sur l'arithmétique et la géométrie ne contiennent pas le quart de géométrie qui se trouve dans Euclide, et rien n'y est démontré que pour qui est à-peu-près content d'entendre l'énoncé d'un théorème."

Though the authors whose works I have examined in this article have not departed much from their great predecessor, yet there has been brought forward, I think, sufficient evidence to show that the belief in his perfection was shaken ; and the year 1658, at which I have now arrived, witnessed the publication of one or two works which departed

\* "C. Dibuadii in Geometriam Euclidis prioribus sex Elementorum libris comprehensam demonstratio linealis." A second part contains the "Demonstratio Numeralis ;" and a third part (1605) contains the 7th, 8th, and 9th books of the "Elements."

† "Introduction to the Literature of Europe," part ii. cap. 8.

widely from him, and, indeed, were almost independent works. To the consideration of these, I may turn on some future occasion.

NOTE.—P. 334, line 26, Legendre's "Elements" (1794); p. 345, line 14, "Commercial Euclid" (1864); p. 342, *note*, Tacquet's book appeared in 1654. It may interest some readers to know that Dr. Hirst's address, as president of the A.I.G.T., is translated into Italian in the May—June number of the *Giornale di Matematiche* (1871); where also is given a translation of the Association's "First Annual Report" (pp. 180-7).

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## THE EXHIBITION.

**N**O doubt many dominies out for a holiday have visited the International Exhibition, and they will readily excuse us if we devote only a few lines to what it behoves us not to pass over without notice—the Educational Department. To tell the truth, when we had wandered through a small wilderness of book shelves, forms, desks, maps, specimens of writing and illuminations, samplers, mathematical and musical instruments, chemical apparatus and so forth, there remained on our mind a somewhat vague and confused impression. We fear that the exhibition of these articles was not calculated to do much practical good, as, for instance, in the case of the school books, whose backs, as they stood ranged in closed glass cases, gave but little information. But there was much to be seen that was both interesting and gratifying. We protest against the modern heresy that education can be done by machinery, but we are fully persuaded of the importance of little things in education and give all due honour to the inventor of a charitable ink bottle or a good-tempered pen. In these matters we are undoubtedly better off than the men of old. When we saw the latest improvements in school desks, so constructed as not to cramp the little chests or weary the restless bodies, we thought with a shudder of the benches on which our youthful patience and pantaloons were fretted away, and no longer wondered that our ancestors were slow to appreciate the advantages of learning. On the other hand, when we gazed on the polished black boards, on the gay maps, and on the varnished school furniture of the new order of things we felt reassured about the future of our race, and began confidently to expect the approach of an intellectual millennium.

It was especially pleasing to see some articles skilfully made by blind pupils, and to think of what they meant—warm sympathy and kindly care on the one side, and the alleviation of one of the greatest of human calamities on the other. Thank God, these poor creatures to whom our hearts yearn, are not to be shut out from communion with our minds. Another most interesting feature was a full size model of a Swedish school-house with all appliances and furniture complete. In walking through it one longed to see a Swedish dominie in the desk and to

learn if he taught the Swedish A B C as nicely as the Swedish people have fitted up his place of instruction.

One educational appliance we in vain sought, both here and elsewhere. We had expected to find a birch rod preserved in pickle, but nobody seemed to have thought of adding this curiosity to the Exhibition. Some rulers looked suspiciously thick and heavy; but on the whole we were fain to believe that the dominie of the period is gentler than his predecessor and more careful of the comfort and the cuticle of his young charges.

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## REPORT OF THE FRENCH IMPERIAL COMMISSIONERS ON MATHEMATICS AND PHYSICS AT CAMBRIDGE.



ET us pass to mathematical studies, of which Cambridge is the seat *par excellence*.

If in our first volume we showed, that we were indifferently satisfied with the teaching of mathematics in the secondary schools of England, we are not sure that we have to praise everything at Cambridge, the official centre, as it were, of the exact sciences.

We have patiently examined all the criticisms advanced by our neighbours across the Channel against our judgments in the aforementioned volume; we have made allowance for acquired habits and national susceptibilities, and we have arrived at the conclusion, that nowhere has a categorical answer been made to our objections.

We have said that, in the matter of calculation (*calcul*), practical skill was aimed at rather than the exercise of the intelligence; we do not say that this statement has been disproved. The school-books are at hand to support our assertions; they are supplied for the method in vogue. In them we see, on the one hand, a minimum of discussion, and, on the other hand, a fulness of examples, and a fatiguing description of the most minute details of each operation. This is the natural result, when the great object held in view is to teach how to operate, and not how to reflect.

We have also said that geometry is weighted by interminable repetitions; and that, in attempting precision, the result has been verbiage. Let our opponents show us a school Euclid in which, for example, in books of equal size, Propositions XIV. and XV. of the third Book occupy, instead of two pages, only half that space, as in Legendre's Propositions II. and VIII. of his second Book, and then we will readily admit our error.

It is quite natural that habit contracted in the school should accompany a young man to the university, in which, more or less, you will find a reflection of the methods used at school. This is more especially the case at Cambridge, inasmuch as many of the young men who come there come very badly prepared, and that the college tutor is obliged to resume with them the science *ab ovo*, or almost so.

Not having been able to attend the lectures, we think it best to give

a sketch of their mode of teaching, from official sources, such as Parliamentary reports, programmes, and questions proposed.

We are not much surprised to find figuring in the programmes of a university specially devoted to mathematics, the first Books of Euclid, school arithmetic (*l'arithmétique usuelle*), and the elements of algebra. We are now aware that Cambridge has had to struggle against the insufficiency of secondary schools, and we readily pardon the *alma mater*, not to incur the risk of teaching the infinitesimal calculus to scholars incapable of casting up a sum. Under existing conditions, this may be a matter for regret, but it is certainly a wise measure. Let us, therefore, pass over in silence the elements, which are taught because it is necessary so to do, but no doubt more rapidly, and by more logical methods, at Cambridge than elsewhere, and let us speak of the higher parts of mathematics.

Here much imparted information, and the voluminous correspondence collected by the Commission in 1852, introduce us at once to the dispute of long standing between the partisans of what is *vulgarly* called *synthesis*, and those who declare in favour of *analysis*. The former wish, as far as possible, to restrict the employment of calculation; the latter wish to apply it to everything.

This important question underwent a long discussion at the hands of the Commission, which had addressed to the colleges and to the professors the following questions:—"Are you of opinion or not that the course of mathematical studies, as it is framed with the view to meet the university examinations, tends to become continually more and more analytical and symbolic? In case of an affirmative answer, do you think it has exceeded the limits of what is useful? Do you, or do you not, think that the existing system of studies is calculated to fix the attention too much on the skilful use of symbols, so as to cause a neglect of natural connections in the applications of mathematics to the subjects of natural philosophy?"

In answer to these questions, Mr. Goodwin said that the three days of examination in elementary mathematics were instituted expressly to put a check on this luxury of analysis.

Mr. Mould thinks that the methods actually in use are not too analytical, and that it is not desirable to change them; 1st, because geometry is insufficient for the exigencies of modern science; 2nd, because, except in elementary mathematics, the geometrical methods are commonly fatiguing and inelegant, requiring an excessive exercise of memory; which leads the student to the practice of cramming; 3rd, because, even in conic sections, there are certain propositions which are easily proved by piling one theorem upon another, and deducing the results *ex æquali*, which are of little use, because the student, though he writes his demonstrations under a *geometrical* form, only thinks algebraically.

On the other hand, Mr. Philpott considers the restrictions placed on the use of analysis salutary, and that they will prevent the students from being too attached to symbols, to the disadvantage of processes of inquiry and of demonstration which would require a more direct use of reasoning.

Professor Stokes is of opinion that the best system is that which leads the student to arrive at the same result by two different roads—to give his attentions, for example, to natural relations in the application of mathematics to subjects of physics, and at the same time to attend to analytical means of solution. This is also our opinion.

Whatever judgment may be formed in the case, the desire to avoid the abuse of calculation (*du calcul*) has produced at Cambridge very singular effects, which leads us to apprehend that in this question the *matter* may have been confounded with the spirit.

Thus in the first Examination Paper, given to candidates for the examination for the mathematical tripos, January 5, 1869, we find that they are forbidden to use the sign —. The only abbreviations allowed are a permission to write *sq. on AB*, to express *the square on AB*, and *rect. AB, CD*, to express *the rectangle caused by AB and CD*.

Here we wait with resignation for the professors on the Continent to condemn us, if they can point out the use of these restrictions. For our part we seek it in vain. What interest can be served in forcing the candidate to write, "Taking AB from CD, there will remain ED," instead of employing the notation  $CD - AB = ED$ ; or, "Taking the sq. on AB from the sq. on CD, give the rect. BD. DE," instead of  $CD^2 - AB^2 = BD + DE$ .

Is the reasoning less geometrical because it has been the endeavour to render these abbreviations of the pen as rapid, as it were, as thought? To explain such restrictions, it must be admitted, as we said just now, that the leaven of the secondary schools has penetrated into the university.

## THE EXAMINATIONS OF THE UNIVERSITY OF LONDON.

### I.—INTRODUCTION.

IN response to a request from the Editor, I purpose offering some hints and directions for students preparing for the various examinations of the University of London. I intend, in the present article, to collect such general hints as are suggested by the avowed objects for which the University was founded, and the principles which have guided the Senate in framing the curriculum. On subsequent occasions I hope to examine in detail the various parts of this curriculum, and advise as to the best course to be followed in preparing for each examination.

The objects of the University are thus set forth in the Royal Charter :—

"Deeming it to be the duty of our royal office, for the advancement of religion and morality, and the promotion of useful knowledge, to hold forth to all classes and denominations of our faithful subjects, without any distinction whatsoever, an encouragement for pursuing a regular and liberal course of education; and considering that many persons do prosecute and complete their studies, to whom it is expedient that there should be offered such facilities, and on whom it is just that there should be conferred such distinctions and rewards as may incline them to persevere in these their laudable pursuits :

"Know ye, That for the purpose of ascertaining, by means of examination, the persons who have acquired proficiency in Literature, Science and Art, by

the pursuit of such course of education, and of rewarding them by Academical Degrees and Certificates of Proficiency as evidence of their respective attainments, and marks of honour proportioned thereunto, We do constitute the Chancellor, Vice-chancellor and Fellows (the Senate), and all persons on whom respectively the University may confer degrees, one body politic and corporate, by the name of the University of London, by which name such body politic shall have perpetual succession and have a common seal.....

"And we further will that the Senate shall have power to examine for, and after examination to confer degrees in any departments of knowledge whatever, except Theology, and that at the conclusion of every examination of the candidates the examiners shall declare the name of every candidate whom they shall have deemed to be entitled to any of the degrees, together with such particulars as the Senate shall from time to time determine; and he shall receive from the Chancellor, a certificate, under the seal of the said University of London, and signed by the said Chancellor, in which the degree taken by him shall be stated, together with such other particulars, if any, as the Senate shall deem fitting to be stated therein."

From this charter it is evident that the first task of the Senate is to describe in clear and definite terms what they consider to be the various stages in a *regular and liberal course of education*, and the second, to provide for the examination of those candidates who profess to have accomplished these stages. The first suggestion for the student is, that from the beginning he must accept with implicit confidence the scheme of work drawn up by the Senate, and in the choice of studies must surrender himself entirely to its guidance.

Every student finds the advantage of working with a definite object and a definite aim before him. Without such aim his energy will be wasted and dissipated in undigested and miscellaneous pursuits. He will turn from mathematics to science, from science to literature, and because the beginning of everything is difficult he will forsake each study in turn almost before it is commenced, until he becomes a changeling captivated by every novelty, and then, though he may possess the "excellency of power," being "unstable as water he shall not excel." Hence we repeat that the young student will do well to follow implicitly the direction of the programme, and neglecting no one of the subjects to go over the ground again and again, with vigorous concentration of the intellectual powers, until a knowledge of the whole is acquired, digested and assimilated in his mental life. His general reading should for the most part have some connection with the subjects of the course, and from the beginning he should be fully persuaded that no time is wasted which is spent in securing proficiency in them. When he sees that he is required to write a passage from dictation, or to answer questions on modern geography, he may perhaps wish to replace these exercises by others more flattering to his intellectual ambition; or on the other hand he may be disheartened by the range of the requirements in chemistry, philosophy, or some other subject. If so, let him be assured that most, if not all of those who have been guided either in studying or teaching by this course of study, have come in time to acquiesce in the wisdom which has framed it.

Let us examine the scheme with a view to determine what are the leading principles on which it is based.

Every candidate for a degree is required to pass the Matriculation Examination, and is supposed to do so at the end of the school or the beginning of the college course. He must be over sixteen years of age, and the restrictions with regard to prizes show that he is expected to pass it before he is twenty-one. The programme evidently contains those subjects which the Senate considers a youth who has received a liberal education ought to know. The candidate is not supposed at this stage to have found out for what class of subjects he



has special ability, he is not allowed therefore to make any selection, but it is a *sine qua non* that he shall answer, satisfactorily, questions of an "elementary character" on all the subjects. Prizes and special commendation are given for general excellence, and not for proficiency in a particular subject. The importance of this arrangement cannot be over-rated. The aim of the school work should be, as far as possible, to develop *all* the mental powers of the student, and to prevent his mind from becoming biased and one-sided. Some teachers, especially teachers of science, have expressed a wish that there should be a separate preliminary examination for science students, but a very little reflection will show that whether a student desires ultimately to devote his attention to science, medicine, law, or literature, it is equally important that he shall secure such a fair, general education as will prove a good basis for his future acquisitions, and nothing could be struck out of the matriculation curriculum without impairing its efficiency for this purpose, always supposing, of course, that the examination questions are of a sufficiently elementary character. The plan of making this the only entrance to the paths which lead to academical distinction is a wise one.

When the Matriculation Examination is passed, and not before, the second stage must be considered. As a rule this is found to be less laborious than the first. Success inspires confidence. One victory achieved, one difficulty overcome strengthens the mind and heart for the next. The love of learning which is begotten of study so lightens the work that all sense of its laboriousness is lost, and when one task is successfully accomplished the student is led to say as Milton said when he had finished a noble poem—

"To-morrow to fresh fields and pastures gay."

At this stage the student will be able to discern the direction in which lies his special forte, and accordingly the course gives a more limited range, but requires greater depth. It divides into four channels :—

1. The B.A., or Literary Course.
2. The B.Sc., or Science     "
3. The M.B., or Medical     "
4. The LL.B., or Legal     "

The individual tastes and circumstances of the student must determine which he shall follow. "Every man in his own order." A man who cannot rise to mediocrity in one course may excel in another, and eminence in one is as creditable as in another. The important point is that of the four courses that should be selected for which the student has greatest aptitude, and "by which he declares to win." Frequently, especially in the Medical Course, failures occur because this is not attended to, the choice being made by a parent or guardian from very different considerations. One important remark has to be made in reference to this third branch. A more considerable scientific training is needed as a basis for medical studies than that secured by the matriculation curriculum, hence a preliminary course almost identical with the First B.Sc. course is required. Now, it is very important to the medical student that this course should be completed before the special studies at a medical school are commenced.

The plan of making the range of subjects narrower, but the work more thorough, is consistently maintained at every step in all the branches, and after the first examination scholarships and prizes are given for special excellence in particular subjects.

Each of the four courses described above is followed by an advanced course, in which by a further sub-division of the work a thorough acquaintance with a few subjects is secured.

1. M.A. obtained either for a thorough knowledge of classics, higher

mathematics, or logic and moral philosophy, at the option of the candidate.

2. D.Sc. for a thorough theoretical and practical acquaintance with one branch of science chosen by the candidate.
3. M.D. for more advanced knowledge in medicine, the candidate being allowed a certain latitude of choice.
4. LL.D. for a thorough knowledge of certain branches of law, to be selected by the candidate.

There is a minimum of time prescribed between the various examinations of each course, but there should be no haste in proceeding to the advanced examination. It is very important that the Matriculation Examination should not be postponed much beyond the age of twenty, for when the natural bent and ordinary occupation of the mind is fixed, it soon loses its plasticity, and then the preparation of many subjects is generally irksome, and even success is scarcely worth the labour of attaining it. But the case is very different when a thorough knowledge of the subjects in which a man finds most pleasure, or which have special reference to his professional labours is required. Then he should postpone the examination until he is thoroughly conversant with all the best authors upon them.

This is the proper place to remind the student that he should always set a far higher value on the mental culture and discipline which results from a course of study than on the degree conferred for success in the examination. His chief object should be to understand thoroughly the subjects which the Senate declares sufficient to constitute a liberal education. Knowledge should be sought after for its own sake ; it should be grasped firmly, weighed carefully, and comprehended systematically. To treat it so, is the surest way to succeed in the examinations of the University of London. The mechanical student, who is for ever trying how a small amount of knowledge can be made to look the most on paper, who regards all work solely with an eye to the use which can be made of it in an examination, who forces facts into the memory in such a way that they connect themselves with nothing ever learnt before, and excite no appetite for what is to come,—such a student soon falls to the rear. This process is termed “cramming,” and it pays but very poorly at the University of London. The questions are far more frequently answered from a knowledge of fertile principles than from the memory of barren facts. That student is most distinguished at the end of the course, who looks at all his acquisitions in their relation both to knowledge which has been previously acquired, and also to that which may be acquired in the future.

There is yet another hint not less important than any we have given.

Roger Ascham calls his model scholar by certain names to describe his characteristic qualities :—First, “Philomathes—one given to love learning.” (The distinguished student takes a positive pleasure in acquiring). Secondly, “Philoponos—one who hath a lust for labour.” (The student who desires to excel must determine—

“To scorn delights and live laborious days.”)

Again, this typical scholar is called “Zetetikos, one earnest in asking questions and ever willing to learn of others.” The quaint author of the School-Master thought a man might have the other qualities mentioned, but “through a proud shamefacedness, or a proud folly, he dares not, or will not go to learn of another.” “The true scholar,” says Ascham, “is not ashamed to go to the meanest, nor afraid to go to the greatest, until he is perfectly taught and fully satisfied.” On this requirement I will base my last suggestion. To prevent a waste of time and opportunities, secure the aid of the best teachers to whom you can get access.

## CORRESPONDENCE.

*[Although responsible for the insertion of the following communications, the Editor does not necessarily agree with all that is stated therein. Nevertheless he does not feel justified in simply inserting such notices as agree with his own opinion, but wishes to give fairly and without bias the opinions held by different members of the profession. A vast amount of good must ensue from the consideration of various questions intimately connected with the well-being of all engaged in tuition. The Editor therefore, will be glad to receive any communications upon subjects connected with scholastic affairs, and if of sufficient importance will insert them in future issues of the Journal.]*

## MATRICULATION EXAMINATION.—June, 1871.

*To the Editor of the Quarterly Journal of Education.*

DEAR SIR,—Can you spare me a little space for a useful purpose?

At the January examination for matriculation at the London University, the total number of candidates was 285, 152 were rejected, and of these, no fewer than 126 failed in Natural Philosophy. These facts should engage the attention of future candidates.

You will, I am sure, join me in congratulating private students especially on the publication of Mr. Wormell's new work on this subject\*—perhaps the most complete book of the kind that has yet been written. I subjoin the following paper, with solutions where they seem to me to be necessary.

## MATRICULATION EXAMINATION.—June, 1871.

Friday, June 30.—Morning, 10 to 1.

## NATURAL PHILOSOPHY.

*Examiners.*—Prof. W. G. Adams, M.A., and Prof. Carey Foster, B.A., F.R.S.

[N.B.—Not more than *Two* Questions in each of the following groups, A, B, C, D, are to be answered.]

## A.

1. Assuming the principle of the Parallelogram of Forces, show what must be the relation, in order that there may be equilibrium on the Inclined Plane, between the power, the weight, and the pressure against the plane.

2. A solid roller, with an axle projecting from one end, is suspended horizontally by two vertical cords—one of them attached to the end of the roller opposite to the axle, the other to the middle of the axle: the roller is 4 feet long, and weighs 27lbs; the axle is 1 foot long and weighs 1lb. Find the weight supported by each cord.

3. A pole 12 feet long, weighing 25lbs., rests with one end against the foot of a wall, and from a point 2 feet from the other end a cord runs horizontally to a point in the wall 8 feet from the ground. Find the tension of the cord and the pressure of the lower end of the pole.

## B.

4. A heavy particle is dropped from a height of 178 $\frac{1}{2}$  feet above a level plain, and while falling it is carried horizontally with a uniform velocity of 3 feet per second. At what distance from its starting-point will it strike the ground?

5. A particle moves with a uniformly increasing velocity. Show that the whole space described is proportional to the square of the time from the beginning of the motion.

6. Explain the third Law of Motion. Apply it to determine the velocity

\* We are glad to hear such a good opinion of Mr. Wormell's new book, which we have not yet examined, but hope to do so shortly.—[Ed.]

gained per second when weights of 6 ounces and 4 ounces are attached to the two ends of a string passing over the edge of a smooth table, the larger weight being drawn along the table by the smaller, which descends vertically.

C.

7. Explain under what circumstances the pressure of a liquid on the bottom of a vessel containing it is different from the force with which it presses the vessel against the table on which it rests. Account for this difference of pressure.

8. Describe the method which you would employ to find the Specific Gravity of a solid substance in the form of a powder, and explain how to calculate the result.

9. State the law connecting the pressure of a gas with the weight of a constant volume of the gas.

A tumbler full of air is placed mouth downwards under water at such a depth that the surface of the water inside it is at a depth of  $25\frac{1}{2}$  feet. Compare the weight of a cubic inch of air in the tumbler, with that of a cubic inch of the air outside—the barometer standing at 30 inches, and the specific gravity of mercury being 13.6.

D.

10. A plane mirror revolves about an axis. Explain a method of ascertaining experimentally whether or not the axis is perpendicular to the surface of the mirror.

11. Two plane mirrors are inclined at an angle of  $60^\circ$ : trace the path of a pencil of rays proceeding from a luminous point between the mirrors to the eye, after undergoing one reflection at the surface of each mirror.

12. Explain, in non-mathematical language, what is meant by the "Index of Refraction" of a transparent medium.

Also describe the phenomenon known as "total reflexion," and show how its occurrence in a given medium is connected with the index of refraction of that medium.

## SOLUTIONS.

1. See Wormell's Nat. Phil., p. 74.

2. Let  $T, T'$ , rep. the tensions req. The dist. bet. the ropes is 54 in., and by taking moments about one end of the system, we find the c.g.  $\frac{13 \times 54}{28}$  in. and  $\frac{15 \times 54}{28}$  in. from the respective ropes; hence  $\frac{T}{T'} = \frac{13}{15}$ ; and since whole wt. = 28 lbs.  $\therefore T = 13$  lbs.,  $T' = 15$  lbs.

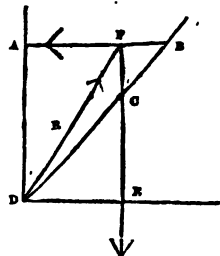
3. The directions of two of the forces which act on the pole pass through F, namely, the tension  $T$  of the string AB, and the wt.  $W$ , hence the third force *i.e.* the result, acts along DF. But  $AD = 8$ , and  $DB = 10$ ,  $\therefore AB = 6$ ;  $\therefore DC = \frac{9}{10}$  of  $DB$ ,  $\therefore AF = \frac{9}{10}$  of  $AB = 3.6$ . Hence  $DF = (8^2 + 3.6^2)^{\frac{1}{2}} = 8.7726$ .

Now the  $\triangle ADF$  has its sides parallel, and consequently proportional to the forces,

$$\therefore AD : AF :: W : T, \therefore T = 11.25.$$

$$AD : DF :: W : R, \therefore R = 27.41.$$

4. From eq.  $S = \frac{1}{2} gt^2$  we get  $t = \left(\frac{2S}{g}\right)^{\frac{1}{2}}$ ;  $\therefore 178\frac{1}{2} = S$ .  $\therefore t = 3\frac{1}{2}$ ;  $\therefore$  hor. dist.  $= 3 \times 3\frac{1}{2} = 10$  ft. and  $\therefore$  dist. req.  $= \left\{ (178\frac{1}{2}) + 10^2 \right\}^{\frac{1}{2}} = 179.16$  ft.



5. See Wormell, p. 91.

6. See Wormell, p. 115. Here  $f = g \frac{P}{W} = 32 \times \frac{4}{10} = 12.8$ .

7. See Wormell, pt. 2, p. 17.

8. The powder approaches the nature of a fluid. See Wormell, p. 33.

9. *The weight varies directly as the pressure, volume being constant.*

Atmos. press.  $= \frac{30 \times 13.6}{12 \times 1} = 34$  ft. of water press. at surface,  $\therefore$  press. at =  
depth of  $25\frac{1}{2}$  ft. = 59 $\frac{1}{2}$  ft. of water; and  $\therefore$

$$\frac{\text{Wt. at surface}}{\text{Wt. at given depth}} = \frac{34}{59\frac{1}{2}} = \frac{4}{7}$$

10. See Wormell, pt. 3. p 14, example 4.

11. See Wormell, pp. 7, 12.

12. See Wormell, pp. 30—32.

In conclusion, let me strongly advise candidates to aim at doing *a few questions thoroughly*.

I am, &c.,

THOMAS MITCHESON.

### OUR BOOK SHELF.

*Science Lectures for the People.* J. Heywood.

THESE lectures were commenced as an experiment, and have proved eminently successful. The question as to whether the masses can be interested in scientific questions has met with a solution in the affirmative. The thanks not only of Manchester, but of the whole country, are due to Professor Roscoe and to Mr. T. J. P. Jodrell for inaugurating these lectures, and carrying them out in such a spirited manner. We see the commencement, but who can see or foretell the end? In his preface Professor Roscoe says: "The names of the lecturers will be a sufficient guarantee of the scientific spirit with which each subject is treated; whilst the eagerness with which the lectures have been attended proves that they were not pitched above the comprehension of those for whom they were specially designed. . . . It is to be hoped that this example of Manchester may be followed by other large towns." We heartily echo the wish, and trust that the work will continue throughout the length and breadth of the land without flagging. The cheap form in which these lectures are published will ensure a large number of readers—the larger the better.

1. *An Elementary Course of Theoretical and Applied Mechanics.* By R. WORMELL; M.A. Groombridge and Sons.
2. *Lessons in Elementary Physics.* By BALFOUR STEWART, F.R.S. Macmillan and Co.
3. *Deschanel's Natural Philosophy.* Parts I. and II. Translated by Professor EVERETT. Blackie.
4. *Elementary Treatise on Physics.* Fourth Edition. Translated from Ganot's "Éléments de Physique" by E. ATKINSON, Ph.D. Longmans. (Continued from p. 314.)

PROFESSOR STEWART has endeavoured to bring his subject before his readers in a singularly interesting and original manner, and has completely succeeded. The greatest difficulty a competent author has to contend with in writing these elementary treatises, is in selecting those portions of the subject he is rigidly to abstain from treating at any length. Thus it is that one continually hears complaints from querulous individuals apt to speak before they think,

that this or that book is useless because it barely mentions the topic upon which *they* desire information. Over and over again have we reiterated the statement that a book must not, nay it cannot, be judged off-hand, like a fat sheep; but must first be used, and used as the author intended it should be used. Thus if a tutor or schoolmaster thinks that his pupils will be enabled to pass certain examinations by carefully studying this book,\* they will be mistaken. The work is not intended for a *cram* book, but as a school-book. Many will say, "a distinction without a difference;" if so, we cannot help them. Our boys' work is regulated too much by examination papers, and scientific subjects, instead of being taught in a natural manner, are "forced, like hot-house plants," into the mind. Professor Stewart's *text* is *energy*. From the commencement to the end, the one grand aim of the author is to bring before his readers the "power for doing work" existing in the various natural forces, *i.e.*, with which we are acquainted. The book begins with a condensed epitome of the various laws relating to statics and dynamics, considering afterwards "the forces of nature," heat, light, and electricity. The whole book is divided into nine chapters, sub-divided into forty-seven lessons, made still further useful by the use of paragraphs, at the head of which the reader finds what may be termed the "title of the paragraph." The decimal system is used throughout. As previously stated (p. 313), some of the illustrations are far from being as good as one could wish in a work of this kind, and cannot be compared with those in Mr. Wormell's or Professor Everett's works. The latter work, indeed, is beautifully illustrated, the woodcuts being rather larger than usual, and very clear. Let any one compare, *e.g.*, the woodcuts illustrating the balance in the books mentioned at the head of this article, and he will find that at p. 59 in Professor Stewart's work very poor indeed, and so with many others. We are glad that these illustrations are not the author's own, but the work of friends; yet some blame must be attached to the author for not taking more care to have his letterpress adequately represented. The style, matter, and arrangement are excellent, and most unmistakably prove that the masters in science are not—as some would have us believe—incapable of descending with clearness and conciseness to describe the more elementary portions of their work. Many parts of this work present examples of terse and graphic description, so clear that the veriest tyro who reads must understand what is meant. The formulæ and experiments given are well chosen, but it might perhaps have added to the utility of the book if examples had been given, to test the student's grasp of these formulæ, &c. The book is "pure gold" throughout, and it would be difficult to point to one portion more perfect than another; yet I cannot resist calling attention to Lessons XIV. and XV. on "Varieties of Energy," and "Conservation of Energy," respectively, as examples to be followed by all school-book writers. Not a word is out of place, nothing extraneous inserted; but all is clear, simple, and to the point. The chapter on heat forms a very good introduction to Professor Stewart's larger work on the subject. Thanks, too, are due to the publishers in this case, as in the last, for the manner in which the book is sent forth into the world. Our wish is that the book may have its due reward—an extensive circulation.

The whole of Professor Everett's work is not yet complete, but when it is, the work will form one of the best treatises on natural philosophy in the English language. Each volume, however, is complete in itself, but for the sake of space one prefers to treat of the whole. Meanwhile, we can heartily recommend the first two volumes to all students.

\* I do not mean that it is useless for students preparing for examination to read this book; on the contrary, I believe they will find in it a mass of very valuable and useful information. But I mean to imply that it is not a work specially prepared to coach students for competitive examinations.

*A Treasury of the English and German Languages: A Companion to all German-English Dictionaries.* By JOSEPH CAUVIN. William Blackwood and Sons: Edinburgh and London.

THE author says in the preface to his work: "In translating from German into English, any ordinary bilingual dictionary will generally suffice for the student's purpose. But the case is entirely different when the student engages in the far more difficult operation of translating from English into German. In this case, when he turns to the dictionary he finds, no doubt, a multitude of words, each professing to represent the meaning of the English word he is in search of; but as he has no clue to guide him as to the *selection of the precise word* he wishes to employ, he becomes completely puzzled, and necessarily falls into ludicrous mistakes." We could not give a better illustration of the difficulties of the student who wishes to translate from his own into a foreign language. The ordinary dictionaries often leave you in the lurch as to the choice of the exact expression, and even lead you into error. No better plan could be adopted than the one to which the author has resorted, viz., to give numerous examples of the different meanings of the same word by quoting good authors, idionis, proverbs, phrases, &c., of which he seems to have a thorough knowledge in both languages. We believe the author has read and studied a good deal, and gives us the fruit of his labours. He has contributed in a large measure to facilitate the task of translating from English into German, and we can conscientiously recommend his book.—PROF. R.

*Junior Classic Atlas.* By G. H. M. WILKINS, M.A. F. Warne and Co.

WE have compared this atlas with that of Mr. Hughes, and find that they possess scarcely anything in common. Why is it that geographers have such a peculiar fascination for their own way of spelling? In no two atlases can we find agreement. Thus, in the present case, taking Britannia as our example, we find the two geographers at variance, Mr. Wilkins having, Bodotria Æd, Vanduarua, Leucopibia, Vinovium, Rutupæ, Vexalla Æs, &c., &c.; while Mr. Hughes writes Boderia Æes, Vanduara, Locopibia, Vinovia, Rutupia, Vexala Æs, &c., &c. If possible, the positions of the places marked in the maps differ more widely than the names: compare *Ocellum Pu, Corda, Uscellum, Seteia Æs, Dunum Sidus, Alaunus R.*, &c., &c.; so on throughout all the maps. And this is our *boasted progress*—say rather it is a sign of the debasing kleptomaniæ for bookmaking.

A companion book to the above, entitled "A Classical Geography, for the use of Junior Classes," has been published. We can only say that we prefer the little work by Professor Pillans, which seems to have been taken as a guide by later compilers. F.R.G.S.

*Dryden's Æneid of Virgil.* Book II., with Notes. Edited by W. MCLEOD, F.R.G.S. Longmans, Green, and Co.

THIS book is the one selected by the Committee of Council for the examination of students in training at the Christmas examination. We can speak in terms of the highest praise, without one atom of flattery, as to the work of Mr. McLeod, for this is one of the best text-books we have ever seen. The notes are exhaustive, and the judicious assistance rendered to students by the specimens of "Analysis," &c., is beyond praise. A brief outline of the lives of Virgil and of Dryden is prefixed, and a list of proper names, accentuated, is added.

*Practical Plane Geometry.* By J. W. PALLISER. Simpkin, Marshall and Co. THE "pages" of school text-books seldom agree with the title of the work, but we have before us one of those valuable exceptions which more than fulfil the expectations raised when reading the title-page. Mr. Palliser is

eminently practical, his definitions and explanations are concise and to the point, his problems well chosen, great care being taken to fully explain those points which close observation has shown present the greatest difficulties to the student. As a text-book for the Science Examination it stands unequalled, both in price and usefulness; and we cannot conceive a student failing to pass almost any test when he has thoroughly mastered the sixty-seven pages of this book. If the companion book on "Solid Geometry," which is announced, is at all similar to this one, our author will have conferred a lasting benefit upon all students interested in these subjects.

### *J. Hamblin Smith's Mathematical Series.*

THIS series includes works on algebra, exercises on algebra, trigonometry, statics, hydrostatics, and elements of geometry, already published—and algebra, trigonometry, dynamics, arithmetic, analytical statics, &c., in preparation. Messrs. Rivingtons are the publishers.

There is no dearth of mathematical books, such as they are; one may reckon arithmetics by the hundred, algebras by the score, and other works in preparation. Every author thinks that his book is the best, that he has treated his subject in a peculiarly effective manner, and that the public must appreciate it. Unfortunately the public are not always blind, and although hundreds of useless text-books on arithmetic are in use, the elimination of these books is gradually but surely taking place. Mr. Todhunter, in conjunction with his publishers, Messrs. Macmillan, has done much good work, in bringing really valuable and accurate books into general use. Mr. Smith is following in the footsteps of his rival, and I heartily believe that his work will bear excellent fruit. The term rival is used more in a complimentary sense than otherwise. Mr. Todhunter has—inadvertently, perhaps—bestowed many benefits, through his books, upon the writer. To them I have always turned when in a difficulty, and seldom or never have I left them without profit. But it is not right that students should confine themselves to one method or to one school. He is the best scholar who calmly and conscientiously weighs the rival statements, gaining thereby intellectual power, and a complete command over the subject he may be studying.

There are many valuable and characteristic features in Mr. Smith's works which will meet with the approval of teachers and taught wherever they are used. The steps by which he leads the pupil are gradual but effectual; the examples are copious and well-selected; the explanatory portions of the works are simple and concise, the whole forming an admirable example of the best means of writing scientific treatises. A real teacher, knowing a teacher's difficulties, and meeting them in the best possible manner, is what has long been wanted, and is what we have now obtained. It is a mistake to suppose the "pupils" make hard work of it; no such thing; it is the good, hard-working, devoted, conscientious teacher who takes the difficulties upon himself; and, therefore, any writer who simplifies these scientific matters confers an incalculable boon upon thousands of teachers. Of course the pupils are benefited in proportion as their work is simplified; but I maintain that it is the teachers who hail with delight the "easy methods."

A few words regarding each book before me. The algebra possesses one or two points of interest which cannot be passed by in silence. The chapter on "factors" is excellent, and will prove very useful. Surds are not mentioned till after quadratics. And this is as it should be, for, in nineteen cases out of twenty, the master skips the chapter devoted to surds to go on with quadratics. The chapter on quadratics is one of the best in the book, the examples being classified; an idea which will save an immense amount of labour, and be highly appreciated. The book of exercises, taken from examination papers, and graduated, will prove useful. The illustrations,



explanations, and examples in statics and hydrostatics are very good; but the former of these two is the dearest book of the whole series. The arrangement of the trigonometry is excellent. I find pencilled on the margin of the chapter devoted to the consideration of the "conversion of angles" the remark, "All these rules are very good indeed, simple and concise." In the "Elements of Geometry" our author attempts "to preserve Euclid's order, to supply omissions, to remove defects, and to give brief notes of explanation, and simpler methods of proof in cases of acknowledged difficulty" (preface). This little work corresponds to Books I. and II. of the Elements. Numerous exercises are given, selected "chiefly from the Senate-House Examination Papers." Our space permits us to say but few words. The departure from the Euclidean form is not great, but it is a step in the right direction, it is another addition to the chronicle of progress, and we are promised that the third book, now in preparation, "will deviate with even greater boldness from the precise line of Euclid's method." This is as it should be; there must be no haste, but a quiet, continued amendment upon previous methods, or we shall be plunged into greater difficulties than even Euclid presents. Throughout the work, those abbreviations allowed at the Cambridge examinations are used, thus,  $\angle$  for angle, and  $\triangle$  for triangle,  $\because$  for because,  $\therefore$  for therefore,  $=$  for equals, and so on, enabling the proposition to be printed in much less space. We thus bring Mr. Smith's works before the notice of our readers, confidently recommending them as being excellent treatises upon the various subjects of which they profess to treat. It is, however, our intention to return to the "Geometry" at another opportunity.

*French Grammars, Readers, &c.*

WE have before us a number of works upon the French language, far above the average merit of school-books. H. KRUEGER'S Grammar (Whittaker) is an excellent little work, well arranged, and in every respect suitable for pupils learning the language.—HAVET'S "First French Book" (Simpkin and Co.) is a combination of grammar and exercise, a system which has been found so very effective, that we have such a multiplicity of books similar in principle, making it very difficult to decide upon the best. The one before us seems quite equal to any of Mr. Havet's works, and that is saying a good deal in its favour. In learning a language, it is necessary to have a series of graduated reading books, so that the pupil may meet with and overcome the idiomatic difficulties by easy steps.—M. DE BEAUVOISIN'S "Aventures de Gil Blas" (E. Marlborough and Co.) is novel in form. The first few chapters are translated into English, the translation being placed side by side with the original. Then we have other chapters, where aid is given by means of copious notes, these notes becoming gradually fewer and fewer, thus leading the student by easy stages to rely upon his own attainments. We can recommend this work, and also the "Book of Anecdotes" by the same author,—An introductory "Book of Extracts," by V. DE FIVAS (Lockwood and Co.), accompanied by an exact vocabulary: they are well selected; but the work is much too dear for a school-book. Half-a-crown for ninety-seven pages of extracts, *plus* vocabulary, is too much. If the compiler's brains were utilised, we should not take offence; but to exact the above price for a mere mechanical compilation will defeat the publishers' aim at popularity. Certainly, the binding and printing of the book are excellent.—The series of extracts published by the Clarendon Press, and edited by G. MASSON; also that of Messrs. Rivington, edited by S. TAINE, will be found excellently adapted for the use of London University students. The extracts are well selected, both from the prose and poetical writers of France. Notes are given, when required by difficulties in construction. As the senate of the London University do not select any special book, it is much better that the intending candidate should read extracts from various authors, than confine his attention to any one book.

*Freddie's Latin Lessons.* By MARY ALBERT. Longmans & Co.

THIS is a very instructive work, but rather, we think, for teachers than scholars.

The principle of it is one with which we quite agree. A boy may learn thoroughly the elements of Latin grammar without so much as seeing a book which bears that hateful name. Here we have a patient instructress, named Doctura, who dictates to a diligent and attentive little boy the forms of Latin verbs and nouns, and succeeds in giving him, in the course of a few months, as great a familiarity with them as many schoolboys come to have after as many years' weary blundering. This success takes place in the book at least, and we do not see why it should not in real life, if the explanations were duly dwelt upon and fully illustrated; and if the declensions and conjugations were thoroughly committed to memory, and if constant revisal and repetition kept the whole from slipping out of the restless young mind thus carefully charged with knowledge. We dwell upon this because we know that however easily the Freddie of fiction may imbibe the sweets of grammar, the only way to get them into the Billies and Bobbies of common life is the unpleasant and monotonous process of continually pounding away at it; and we suspect that our amiable authoress has had a too favourable experience of pupils which leads her into the mistake that when once she has explained how an imparasyllabic noun increases in the genitive, Freddie's familiarity with the character of imparasyllabic nouns is assured for the future. She seems, indeed, to intend her doses to be taken down effectually at a single draught, for she provides layers of raspberry jam in the shape of a kind of very pretty fairy tale, running throughout the work and alternating with *bonus* and *amo*.—Shade of Dr. Busby, rest thee in peace!

Freddy does not seem to require those stimulants to diligence which Busby thought so necessary; but, as we have hinted, there are boys in the world who—but let that be as it may, the critic who loves a book is unwilling to spare the rod. This disagreeable business we will get over at once, and then proceed to send this book on its way with a very kindly feeling towards it.

We disagree with the authoress on certain matters of detail. For instance, she thinks it better for a boy to learn the third declension first, because it is the hardest, and the others will all come easier after it. We rather are inclined to justify the wisdom of grammatical Dry-as-dusts, who have determined that the beginning is the best place to begin at. You are apt to confuse a boy by plunging him into the deepest hole at first, and the first declension has the advantage of being more regular and less heathenish-looking than the others.

We must join issue with the authoress on another point which is not so much a matter of opinion. It having been understood that ladies have been from the days of Babel incapable of learning Latin, we put on our biggest critical spectacles over this book, and prepared to look out for blunders. Before long we started one. The authoress calmly ruled that *all* adjectives had *ia* and *ium* in the plural. *Di meliora!* we exclaimed, thinking that the Mark Tapleys of the schoolboy world would have very little credit in being jolly if we went on at this rate reducing the irregularities and other unpleasant circumstances besetting their grammatical path. We read on, however, and found out that afterwards Freddie was taught a sounder doctrine as regards *comparative* adjectives. But our thirst for blood was not to be appeased. We know what Doctura was thinking of when she said that *locus* belongs partly to the second and partly to the fourth declension—why did she not send its friend *focus* to keep company with it in this unfamiliar locality?—but if Freddie takes this doctrine with him to Eton, he runs the risk of falling into the fate of Macaulay's celebrated schoolboy.

There are more serious mistakes in the chapter on syntax. In the sentence "The boy being hungry, sat down to dinner," we fear that the boy would have to wait a long time before he could grammatically sit down to dinner in the ablative absolute, p. 398. We have had no experience of a governess, but we know well what the Rev. Orbilius would have said to us if we had used the phrase "*at Greece*,"—certainly we should not have been allowed in peace to go the length of translating it "*Græcia !*" p. 376.

But if our authoress seems to have made one or two slips, we are sure she can teach Freddie much better than Mr. Orbilius could. There are several signs of this. First, we observe that she tells Freddie nothing which he cannot be brought to find out for himself by a little careful reflection. Instead of dictating fat, ugly, stupid rules to him, she either leaves rules alone as unnecessary for the present, or puts her pupil in the way of seeing what the meaning of the rules may be. Then we argue favourably of Doctura's success, when we find that before saying a word about Latin verbs, she examines Freddie carefully to see if he understands the nature of English verbs. How many boys are there who have gone half-a-dozen times through the Public School Primer without knowing a participle when they see one? Another and most important merit in Doctura's teaching is that she does not disdain to be funny, and trivial, and undignified. There is too much gravity about our processes of education. The Philistine of childish ignorance were best overthrown by smooth stones from the brook; but we must needs go out against it in all the paraphernalia of cap and gown and such like scholastic armour. No sane man desiring to kill a sparrow would provide himself with a siege train; but we think it necessary to load a Doctor of Divinity with heaven knows what grape and canister when we wish to make sure of an attack upon childish wits. Such a master would content himself with making a boy learn that nouns of the third declension ending in *a e c l n t*, are neuter; but Doctura has no dignity to stand upon, and does not hesitate to bid her pupil remember the word *lancet*. These little tricks are worth a great deal to a teacher, if his object be to teach as easily and quickly as possible. We remember how grateful we were when, travelling through the desert of syntax rules, we came to some such oasis as—

"With ask, command, advise and strive,  
By *ut* translate infinitive;  
But never be this rule forgot,  
Put *ne* for *ut* when there's a not."

Many teachers have and use little devices of this sort. It would be well if a collection of them were made, and some learned author were found not too proud to construct from them a new Latin Primer—for the use of masters! For the boys—and we must now say girls—tables of forms and inflections would be quite sufficient; indeed these might be as well given on a black-board, or written to dictation. Education is oppressed by school books. Again and again we repeat that the elements of grammar must be taught by constant oral teaching and repetition. With this caution we heartily recommend *Freddie's Latin Lessons*. It has faults which many schoolmasters can detect, and it has merits from which any schoolmaster may receive a lesson.

*Master John Bull: a Holiday Book for Parents and Schoolmasters.* By A. R. HOPE, Author of "Book about Dominies," &c., &c. W. P. Nimmo.

"RASPBERRY JAM." Such are the startling and sensational words with which this book commences; and I must say that the whole book is plentifully besprinkled with it, making the mouth water and the eyes sparkle at the thought of the nice bread and butter over which this luscious luxury has been so bountifully spread. In an age noted for its ease and luxuriousness, authors find that good hearty beef and plum-pudding—John Bull's proverbial fare—

is somewhat shunned ; as if the beasts from which the juicy morsels were taken had got the foot-and-mouth disease ; whilst puffs and pastry—ices and condiments, and such-like delicacies, which serve only to delight the palate and derange the stomach—are eagerly sought for and gluttonously swallowed. No wonder, then, that as a nation we are fast turning yellow, and getting touchy and irritable with bile. And, goodness gracious me, here is an author who has the temerity to pat us on the back with one hand, whilst with the other he deliberately punches our heads. Brother Britons, shall we stand it ? or shall we retaliate ? Is the old blood quite dried up, and are the nerves shrivelled like so much dry straw ? Ah, no ; but it is the doctor, who doses us, and purges us, and we know it to be for our good. It is an endeavour to prescribe for us, so that our eyes may be opened, and we may be enabled “to see ourselves as others see us.” This book treats largely of the education of “Master John Bull.” The style and manner of the work are very similar to the “Book about Boys” and the “Book about Dominies,” by which the author first achieved distinction, and won for himself a prominent place amongst those who have written, or who write, on behalf of education. If those books are found worthy of perusal, this one is not less worthy. No doubt many grave critics will, with sententious Johnsonese, decry the frivolous manner (at least so they will term it) in which the book is written. But is the “pill” less efficacious because of its silvery coating ? Rather, does not the patient swallow it much more kindly than if it were presented in its normal nauseous state ? The patient is ill, he hates medicine ; but it is necessary for his welfare and the welfare of those about him that he should take it.

But to the book. About the introductory part I will say nothing, except that, like the preface, it forms a chapter by itself. The third chapter contains an autobiography of the author, in which his “home-training under Aunt Tabitha” is graphically depicted. We have here some very sensible but pungent remarks about “Sunday training ;” and we are shown “how it is that boys, instead of looking forward to Sunday with pleasure, look at it and think of it with the gloomiest feelings, if not with positive hatred.” Still, I think “Aunt Tabitha” is exaggerated. However badly we manage, surely this training is not general. Next we have described the schools to which the author was sent, the account of which is flavoured with anecdotes of school-fellows. Generally our author is a close observer of nature, but many a lance would be broken over “One-and-six” (p. 92). By instinct, children seem to know those natures which will shake off wrong like a duck will water. We never yet discovered that a child was wrong in this characteristic, and we never yet hesitated to place confidence in that man, woman, or child in whom a child seemed to have confidence. Now, old One-and-six “was the friend of all little boys, their butt even. . . . I am afraid he has not turned out a respectable character in life,” &c. And this is about all we can say against the book. Practical hints are given in abundance. The want of a little common sense in all parties who have anything to do with Master John, is thoroughly proved. The real end and aim of education is concisely stated and impressed upon the reader. Shams, stucco, gilding, ornaments, and accomplishments meet with the fate they deserve, being denounced in no very gentle terms. Educators, we read, “are agreed upon this, that the *chief* object of mental education is to train the mind, and not to furnish it with a certain quantity of useful or useless knowledge ; and this Mr. Bull would do well to bear in mind.” Yes, this is a fact, perhaps a hard and disagreeable one, and as such must receive attention. Oh ye fathers and mothers, how long will ye continue in darkness ? Come forth into the light ; study these questions, as ye study financial and political questions ; let the acumen of many brains sift the subject till nothing but pure wheat remains, and new methods of education instituted which shall keep England at the head of the

nations. Education is the means by which we can hold our own ; without it we fall like a rotten tree, useless, fit for nothing, and cumbering the ground. There is a deal of wisdom in the book brought before your notice. Read, mark, learn, and profit by it.

With one extract, we leave this book to fulfil its work. "If I were the Pope I should solemnly . . . excommunicate three sets of people : First, All mothers who encourage their boys to lounge about at home, reading trashy novels, and sucking lollipops. Second, All sisters who entice their brothers to attire themselves upon half-holidays in gorgeous apparel, and thereafter to swagger about the streets, and accompany them to shops and croquet parties. Third, All schoolmasters who don't give their boys enough playtime, and make them walk out two by two, like a live Noah's ark, and ask them the botanical names of all the plants in the hedgerows as they pass along, and rebuke them for making a noise, and not wearing kid gloves."

C. H. W. B. 1

P.S.—What else is in the book ? We advise everybody to read it for themselves, and see.

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*Little May's Mythology: a short account of the gods and goddesses of ancient Rome.* By MISS H. R. LOCKWOOD, author of several educational works for the young. W. & R. Chambers.

A PRETTY little book : but we fear not of much use for giving a clear or true idea of the subject. "The mythology which is written about in this book was once actually believed in by the brave and clever Romans," says the author (p. 3). But no distinction is made between the Greek and the Italian mythology—none between the more essential and religious, and the merely ornamental and poetical elements. The book may, indeed, be taken as affording an idea of the literary and conventional mythology of the Augustine age—but it certainly does not represent any *religion* which any nation ever believed in. The author has regarded the subject as a trivial one, and, perhaps partly on that account, has taken a most superficial view of it. And she will acknowledge that a book *need* not be trifling or superficial in order to be simple and interesting.

J. C. V.

*Cassell's Book of Birds*, another monthly publication of this energetic firm, is a translation of the elaborate work of the German naturalist, Dr. Brehm, by T. R. Jones, F.R.S. The editor's introductory chapter is a perfect marvel of condensed information. The names of these eminent men are enough to guarantee the very best and latest information. The engravings and letter-press leave nothing to be desired.

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## REVIEWS OF WRITERS FOR BOYS.

### V.—THE DREGS OF FICTION.

THE other day we heard a schoolboy loudly demanding to have pickles for dinner. When the writer was a small boy he was not allowed pickles, but eat plain roast beef, yea and cold mutton, thankfully, and with good appetite. So, too, was his literary taste satisfied with "Sandford and Merton," "Evenings at Home," "Robinson Crusoe," "Ivanhoe," and such like steady, respectable old friends, whose very names, we fear, are not so familiar to the

new generation as those of "Paupukicklewinkle," or the "Benighted Bigamist." For boys now-a-days seem to like their literature seasoned with pickles, and there are not wanting authors ready to serve up a most offensive and unwholesome sort of caviare for the general taste. "Evenings at Home" were perhaps somewhat insipid, and we need not much lament that books of this class gave way in school libraries to Sir Walter Scott, and his works, again to "Tom Brown's School Days"; but when these began to be thrown aside for Captain Mayne Reid's tales, we were in the right to be suspicious; and now that the juvenile literary appetite fed on raw flesh of this kind is found craving after still more stimulating food, we have reason to look very grave over a great deal of the nourishment provided for it.

The increased love of reading has given a great impetus to the production of that class of literature which is known as the "Penny Dreadfuls." Till lately we thought we might congratulate ourselves that these valuable journals appealed only to the sympathies of romantic young ladies, idle shop boys, foolish maid servants, and the like. But one enterprising publisher brings out a work of this kind in which he professes to cater for boys, and with many hypocritical flourishes about his being an apostle of amusement and instruction, brings all the folly and wickedness of the lowest school of sensational writing within the reach of the humblest allowance of pocket-money. The experiment proves such a success that it is repeated and imitated, and now, every Saturday afternoon, we have the satisfaction of knowing that hundreds of thousands of young minds are eagerly feasting on such periodicals as "The Boys of Britain," "Young Gentlemen of the World," "Pirate Bob," "Jack Rascal's School days," and imbibing therefrom the most false and unhealthy views of life and conduct. There is even a worse kind of cheap paper, the conductors of which try to shave the edge of the law as closely as possible, but so rashly, that it is a wonder Lord Campbell's Act is not more often put in force against them. Of these we have no wish to speak of here, but only of papers which lay claim to being fit for family reading. And we may as well mention that all penny papers are by no means included in our censure. If we are not mistaken, "The Family Herald" is known as an honourable exception, both by the tone and style of its contents.

The very opposite is to be said of almost all other papers of this class. We have lately looked through numbers of such as we found professing to be adapted for boys, and find them all very much the same. A tale of school-life seems to be a favourite feature of them, and *ex uno disce omnes* may be said of these tales. The principal characters are as follows:—One hero, bold, brave, reckless and unprincipled, who wins the unbounded sympathy of the juvenile mind by fighting with the cock of the school on the first day of his arrival, and afterwards playing the most daring tricks without being discovered. Then, one friend and confidant, who helps and admires the hero in his devilry. One fat and otherwise ridiculous boy who acts as jester and butt and always comes to grief. One bully to be thrashed by the hero. One master who is a fool, and one usher who is both a fool and a knave. One girls' boarding school, to give the evil-minded reader an opportunity of verging on the indecent. One miscellaneous bad character to buy cigars and spirits for the boys, and otherwise aid them in their "larks." The sort of story that is constructed out of these materials may easily be imagined by any one who has studied "The Penny Dreadfuls," and also the style employed. The apprenticeship to the trade must take some time; but we believe that this sort of writing comes to be very easy after a while, and their authors no doubt knock off with mechanical facility a narrative which the instructed reader can follow by simply glancing at the titles of the chapters, though he is further helped by the striking illustrations which decorate so many small

shop windows every week, and distract so many pennied urchins from the pleasures of toffee.

We are not going to analyze any one of these tales, nor explain how the same brilliant stream of imagination is turned on through another tap and comes out flavoured with brigands, pirates, Uhlans, Indians, or mediæval men at arms; but we would ask every parent or schoolmaster who has the welfare of his boys at heart, to purchase a copy of one of these journals and, having looked through it, to make sure that he is exercising the greatest diligence to prevent such stuff from being read in his house, and to discourage its circulation in every way. Most respectable booksellers, we fancy, refuse to sell these journals, and many more would refuse if their attention were called to the character of the contents of them, or if some pressure were used by their profitable customers.

But before leaving this subject we must express our decided conviction that these journals owe a great part of their popularity to the very men who are professedly, and we have no doubt honestly exerting themselves most to destroy it. Many magazines have been brought out with this intention, and too many of them have failed in their aim, because they fell into an unhealthy tone of another kind. Putting aside the question of whether writing for the young should be strongly flavoured with religious sentiments and expressions, there can be no doubt that goody-goody stories and lectures will do little to wean boys' minds from sensationalism; you might as well expect cannibals to delight in rice pudding after having been accustomed to stewed missionary. We are sure that the best way to counteract the effect of these dregs of literature against which we exclaim, is to furnish boys and girls with good reading that shall be at once cheap and entertaining, and honest and wholesome; and we shall be glad to welcome efforts in this direction more wise if not more earnest than most of those which have as yet been put forth.

A. R. H.

## EXAMINATION PAPERS.

INDIAN CIVIL ENGINEERING COLLEGE, JUNE, 1871.

### ENGLISH HISTORY AND LITERATURE.

1. Point out those features of the history of England, *ante* A.D. 1000, which are essentially of a *legendary* character. To what source can these legends mainly be traced?
2. Give a sketch of the social condition of England under the reign of Alfred the Great.
3. Write a life of Earl Godwin.
4. Trace the course of the claims advanced and the checks sustained by the royal prerogative in this country since the Norman Conquest, marking with dates the leading epochs and most important measures connected with it.
5. State what you know of the history of the Order of the Templars in this country.
6. Sketch the history of the Reformation in England.
7. Give an account of the English possessions in France, explaining the claims under which they were held and the circumstances under which they were abandoned; and drawing a map to show where they were situated.
8. Relate the most important events in English history during the interval between the death of Henry VIII. and the accession of Queen Elizabeth.
9. What were the relations existing between England and Ireland up to the reign of Charles the Second. Mark the dates of the principal events.
10. Give an account of the Spanish Armada.

11. State what you know of the following :—Habeas Corpus Act : The Act of Settlement : The Solemn League and Covenant : The Quadruple Alliance : the Navigation Act : The Darien Scheme : the Massacre of Glencoe.

12. Sketch the history of the East India Company down to the arrival of Clive in India.

13. How did the House of Commons originate, and when were representatives of towns and boroughs first summoned ?

14. Write the history of *one* of the great families of England :

15. Compare the progress generally of English prose literature with that of English poetry. Note the most remarkable historical events which have influenced for good or for ill the progress of each.

16. Write a life, and give some account of the works of Chaucer. What great English poet has paraphrased some of his tales ?

17. Sketch the history of English satirical literature.

18. Name, with dates, the principal English translations of the Bible, and estimate the influence of the received version on the language and literature of the country.

19. If you were collecting specimens of English poetry from Chaucer to Spenser, what authors would fall within your scope, and what are the principal pieces which you would select ? Give dates.

20. Trace the history of the English drama down to and exclusive of Shakespeare.

21. Give the story of Spenser's *Faerie Queen*. Quote the opening lines of some of the most famous passages. What other models of allegorical treatment do we possess in English literature ?

22. Discuss fully the character of Hamlet, of Iago, and of Lear. What internal evidence is afforded of the date of the plays where they respectively occur ? From what sources did Shakespeare borrow the materials of these plays ? In what plays do the following characters occur ? Miranda. Demetrius. Nerissa. Autolycus. Parolles. Arthur. Jaques. Nym. Goneril. Laertes. Imogen. Charmian. An Apothecary.

23. Who were the most important writers of essays in English literature ? Criticise and compare their respective merits.

24. What faults have been found with Milton's great epic, and by whom ? With what justice has he been accused of plagiarism in the composition of *Paradise Lost* ?

25. Who were the authors and what were the subjects of the following works ? Arrange them in chronological order :—*Gorboduc*. *The Legend of Good Women*. *The Religio Laici*. *Essay on Man*. *Polyolbion*. *The Cottar's Saturday Night*. *The Prelude*. *Piers Ploughman's Vision*. *Utopia*. *Anatomy of Melancholy*. *Wisdom of the Ancients*. *History of the Turks*. *Golden Grove*. *Drapier's Letters*. *Hydriotaphia*. *The Task*. *An Apology for Smectymnus*. *The Duchess of Malfi*. *The Botanic Garden*. *The Parish Register*. *The Critic*. *Cooper's Hill*. *Alexander's Feast*. *The Ancient Mariner*. *Areopagitica*. *Hermes*. *The Silent Woman*. *Mother Hubbard's Tale*.

26. Name the authors of the following passages, and the works where they occur :—

- (1.) Of law there can be no less acknowledged than that her seat is the bosom of God, her voice the harmony of the world, &c., &c.
- (2.) In maiden meditation, fancy free.
- (3.) That old man eloquent.
- (4.) Come home to men's business and bosoms.
- (5.) Brevity is the soul of wit.
- (6.) Who ever knew truth put to the worse in a free and open encounter ?
- (7.) Die of a rose, in aromatic pain.



- (8.) Party is the madness of many for the gain of a few.  
 (9.) For we that live to please must please to live.  
 (10.) The breezy call of incense-breathing morn.  
 (11.) Heaven lies about us in our infancy.  
 (12.) There is a pleasure in poetic pains  
       Which only poets know.  
 (13.) The young men's vision and the old men's dream.  
 (14.) Or call up him that left half told  
       The story of Cambuscan bold.

Explain the allusions in (2), (3), and (14).

#### HEAT AND LIGHT.

1. Describe Regnault's hygrometer, and explain how to find the tension of the vapour in the air by means of it.
2. A thermometer tube has been filled with mercury and sealed; how would you proceed to fix the limits of temperature to be indicated by it?
3. Explain how to determine the apparent expansion of a liquid by means of the weight thermometer. Why is it called a thermometer?
4. Define specific heat. Explain how to determine accurately the mean specific heat of a solid by the method of mixtures.  
 Find the temperature of a mixture of 10 lbs. of glass at a temperature  $15^{\circ}\text{C}$  (sp. heat  $\cdot 177$ ) and 25 lbs. of zinc at a temperature  $60^{\circ}\text{C}$  (sp. heat  $\cdot 09$ ) with 5 lbs. of water at a temperature of  $10^{\circ}\text{C}$ .
5. Show how to find the co-efficient of increase of elasticity of a mass of air occupying a constant volume.
6. The rim of the balance wheel of a watch is made up of strips of two different metals, one outside the other, and is cut at four points; explain how it is possible for the watch to have the same rate in hot and cold weather.
7. What relation exists between the powers of absorption and radiation of heat by a body? How would you establish the relation experimentally?
8. A luminous point is placed between two plane mirrors which are inclined to one another; trace the path of a pencil of rays by means of which the luminous point will be seen after three reflections by an eye placed in a given position in the plane passing through the point and perpendicular to the intersection of the two mirrors.
9. Explain the law of refraction by a plane surface on the principle of the wave theory of light.
10. A candle is placed at a given distance in front of a concave mirror of given radius; find the position of the image of the candle, and point out when it is a real and when a virtual image. What is its position if the flame of the candle and its image coincide?
11. Explain how to make the measurements which are required in order to find the index of refraction of a prism of glass.
12. What is meant by achromatism? Explain why it is that with a single lens it is impossible, but with a compound lens it is possible, to obtain an achromatic image of an object.
13. What is meant by Interference? An isosceles prism of glass with an angle nearly equal to two right angles is placed with its two equal faces equidistant from a point of light; describe and explain the appearance presented on a screen placed at some distance behind the prism.

END OF VOL. II.

BILLING, PRINTER, GUILDFORD, SURREY.









